COGNITIVE DIFFERENTIATION AND OCCUPATIONAL-PROFILE DIFFERENTIATION ON THE STRONG VOCATIONAL INTEREST BLANK

By

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CHAPTER I

INTRODUCTION

For some forty-five years the Strong Vocational Interest Blank For Men (SVIB) has been the preferred instrument of vocational counselors in dealing with college students. In fact, as Cronbach has stated, the Strong Blank is not only the "most highly developed and best understood of the inventories," it also "ranks very near the top among psychological tests of all types" (Cronbach, 1960, p. 434). Super and Crites have agreed that "it is without question one of the most thoroughly studied and understood psychological instruments in existence" (1962, p. 418). Despite this amount of research, one problem in relation to the inventory has existed for many years and still today remains one of the major unresolved aspects of the test. This problem is the one presented by those men who end up with no occupations being selected by the SVIB from their answers to the inventory questions; their profiles on the Strong are "flat" or undifferentiated, and they are said to have low intensity or weak SVIB vocational interests. Despite a number of studies, the characteristics of men obtaining such profiles are still mostly a matter of speculation.

This problem was the beginning point of this study, but because of so many previous failures in this area it was felt important to change the usual strategy of attack on the problem. First, it was decided to broaden the concern of the study from just comparing groups of men with and without flat profiles into a study of "flatness" or "height" of the profile as a variable. Instead of studying differences between groups, an attempt was made to determine how well certain predictor variables were related to criterion variables obtained from different ways of quantifying flatness or height.

Secondly, as was just intimated, this study also attempted to evaluate some different ways of defining a criterion variable of height. As Athelstan (1967) pointed out, one of the critical problems with many of the studies in this area has been the problem of defining the criterion group. By studying a variable, rather than a group, one does not have to fear that by defining a group in a certain way certain important individuals have been cast aside; in this study all the individuals who took the SVIB were used. And by using the technique of canonical correlation it was possible to make some evaluation of the usefulness of different ways of defining the criterion variable.

The third difference of this study from the previous ones was the attempt to relate SVIB occupational profile differentiation to a certain class of cognitive style variables, those having to do with cognitive differentiation, rather than to some kind of motivational (or "dynamic") variable as has been the custom in the past. The main hypothesis to be tested in this study was that in order for a person to display occupational differentiation on the SVIB he would need to be cognitively differentiated to some degree; that is, a necessary condition (though obviously not a sufficient condition) for occupational differentiation is cognitive differentiation. Thus, it was expected that a low positive correlation would be found between various measures of cognitive differentiation and the various criterion variables of occupational differentiation on the SVIB.

The fourth difference between this study and previous ones was the attempt to study how the various cognitive variables interrelate to one another and how their effect is "moderated" by the presence of certain motivational variables found in recent studies to have important effects on other personality variables. Through the use of this "moderator analysis" it was hoped that non-linear interactive effects between these variables would come to light.

The final difference in this study from the previous ones was the decision to include a replication group within the study. That is, the original sample was randomly divided into two samples called the initial sample and the cross-validation sample. Only those results which were significant in the initial sample and which were also present in the cross-validation sample were considered to be valid.

Literature Review

Almost thirty years ago the inventor of the SVIB was complaining of the lack of knowledge about those men who end up with no occupations being chosen on the SVIB; he felt that these persons presented the "toughest" kind of counseling problem (Strong, 1943). In 1966 in the manual for the newest revision of the test the authors were still feeling that this problem needs "much more research" (Strong, 1966, p. 12), so that despite the passage of some twenty-five years, the newest manual can, for the most part, only repeat the speculations Strong originally made in 1943. At that time Strong suggested that some flat profiles may be produced by a chance distribution of answers to the test. Another possibility, Strong said, was that the individual who produced such a low profile had interests for which there was no occupational scale, e.g., mariner. On the other hand, Strong felt that there was some evidence available to suggest that men with no primary occupational interest patterns look like underachievers. Still, Strong also suggested that the general elevation of the SVIB profile may be a measure of the "motivation the individual has at his disposal for working hard," and therefore low profiles often give the impression that their owners are "drifters" (Strong, 1943, pp. 440-441). But, on the other hand, Strong also pointed out that some low profiles are produced by successful students in the various "business" areas, so a low profile may suggest a certain flexibility required for advancing business executives: the interests of business men "are widespread and on the average not so strongly held."

By 1955 in his next book Strong could report from his research that older men obtain profiles with more intense interests than do younger men. He also, by this time, had given up his motivational interpretation of flat profiles, while retaining all the other 1943 speculations. In place of the motivational interpretation he attempted to substitute a theory involving attention (Strong, 1955). He saw intense interests as being connected with freely given persistent attention, and low profiles were thus partially due to the person's inability to focus his attention on any one vocation.

In giving his counseling hints he repeated his concern about those persons with low profiles, and he reported that in counseling he followed the practice of classifying all the profiles into two main groups: those with a V-shaped profile and those with a flat profile. "It is the flat profiles that are troublesome; men with such profiles need thoughtful counseling" (Strong, 1955, p. 193).

> The writer's guess is, and it is still a guess, that these men will never have the keen enjoyment in their work which is characteristic of many professional men but, on the other hand, they will never be so frustrated, whatever phase of business they are engaged in, as professional men when these latter are employed at work foreign to their interests. (p. 194)

Also actively involved for a long time in counseling with the SVIB has been John G. Darley at the University of Minnesota. In 1941 he published a guide for the clinical use of the Strong and reported a great deal of research, normative data, etc., on the SVIB (Darley, 1941). In 1955 he and Theda Hagenah replaced his earlier work with a much expanded one that included new research on the 1938 revision of the SVIB (Darley & Hagenah, 1955). In this latter book the problem of low profiles is recognized (p. 214), but there is very little discussion of the reasons for such profiles. Their only suggestion is that "there is a lower limit of interest differentiation" (p. 26) and that this limit "is related, no doubt, to the level of ability, to the socioeconomic status, to the personality and motivation of the individual student" (p. 27). Little evidence is offered to support this statement.

In the 1966 SVIB manual (revision by Campbell: Strong, 1966), many of Strong's 1943 statements are repeated, including the statements about the businessmen profiles: "The really tough counseling assignment occurs when a person has no A ratings, few if any B+ ratings, and does not have interests characteristic of business" (p. 11). In this virtually word-for-word repetition of the reasons given by Strong in 1943, Campbell includes the above mentioned businessmen interests, very specialized interests, general lack of interests, or interests of workmen and not of professionals. In place of the notion that those with flat profiles are not willing to work hard, Campbell substitutes an idea from Layton (1958) that "the lack of any pattern on the Strong Blank is related to maladjustment."

> A person may be too fearful and unsure of himself to commit himself thoroughly to any vocation, or may be characteristically indecisive and ambivalent about most choices confronting him. With young people, the lack of high scores may be associated with immaturity. Much more research is needed in this area. (Strong, 1966, p. 12)

Though the manual claims that some research has been done, a check with Layton (1958) reveals only two studies by Berdie (1945, 1946) relating constricted interests to maladjustment. A group of psychologically abnormal people as well as some military trainees who did not adjust well to training did not check as many recreational interests on a checklist as did normals. The inference is that maladjusted people have a narrower range of interests than normals and would probably have flat profiles on the SVIB, but unfortunately the SVIB was never used to check this out.

Berdie (1943) did investigate what might be a very obvious hypothesis about the flat profile: the person chose to respond with an unusual number of "indifferent" choices. The SVIB, of course, is composed mostly of items concerned with vocations, avocations, activities, school subjects, personality types, etc., and to most of these items the subject is asked to respond with Like, Dislike, or Indifferent. Following the example of Rulon (1931) Berdie marked three different answer sheets with all Like, all Dislike, and all Indifferent responses.[1] The Like-marked answer sheet produced seven A occupations, the Dislike-marked sheet also produced seven A occupations, and the Indifferent sheet produced five A occupations. Berdie concluded that marking all the Likes produced a profile characteristic of those obtained by people in social service fields, business detail fields, the skilled trade fields and by production managers. Marking all the Dislikes produced a profile similar to those produced by people in the verbal-linguistic fields, such as journalism and law, and by those in the scientific-creative fields. Marking all the Indifferent choices produced a profile similar to those of skilled tradesmen, musicians, and some social service people. It thus appears that being indifferent to the choices on the Strong Blank is not what produces a flat profile.

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[1] It is not clearly stated how Berdie marked those questions not having the L-I-D categories, though he probably marked them the way he reported Rulon had done. On his "Like" answer sheet Rulon marked such questions in the left column; on the "Dislike" answer sheet, in the right column; on the "Indifferent" answer sheet, in the middle column.

Despite these observations by Berdie, efforts have been made to connect response styles to low profiles. Tyler (1960) suggested on the basis of clinical observation that cases with no intense interest patterns often had very few Dislike responses on their blanks. It was her hypothesis that vocational interests mature within a person as he forms more interest-rejections, so that, up to a point, the clearer the person perceives his role the more Dislike responses he will give. A recent study (Athelstan, 1967) of 151 low profiles, however, found that compared with a randomly selected control group the low profile answer sheets contained fewer Like and Indifferent responses and more Dislike responses, the exact opposite of Tyler's predictions. Nevertheless, other studies (Stewart, 1960; Armatas & Collister, 1962) have indicated that the L-I-D responses reflect not only the responder's vocational interests but also his personality traits.

In the studies which have been actually concerned with the problem of low profiles, the common concept which has been used to describe the occurrence of these profiles has been "primary patterns." This concept, first published by Darley in 1941, is based upon the fact that the SVIB profile sheets group the occupational scales, according to content and factorial relationships, into various occupational "families." Darley proposed a set of rules by which one could say how strong a person's interests in a particular occupational family were:

> . . . The primary pattern is the interest type within which he shows a preponderance (plurality or majority) of A and B+ scores on the specific occupational keys; the secondary pattern is the interest type within which he shows a preponderance of B+ and B scores. (Darley, 1941, p. 17)

The problem with this "plurality or majority" rule, as later writers pointed out, is that it was devised for counseling procedures, and it was thus of no great concern to Darley that one counselor could judge a particular profile as having a certain primary pattern while a second counselor might feel it was only a secondary pattern. Despite this ambiguousness, Darley used this rule in publishing normative data on three years of freshmen (ending in 1941), including in the data the number of primary and secondary patterns encountered in this group (Darley & Hagenah, 1955).

It was in this later book that Darley also introduced the related concept of the "reject pattern," as a more useful and meaningful pattern than the earlier defined tertiary pattern. A reject interest pattern was recorded in this study "whenever the majority or plurality of the scores lay to the left of the 'chance,' or shaded, area on the profile" (Darley & Hagenah, 1955, p. 79). The reject pattern was interpreted to mean that not only was the subject not interested in that particular occupational family but he was also positively rejecting the family.

Though it might appear that the number of reject patterns is another way of characterizing a flat SVIB profile, the normative data collected by Darley and Hagenah indicate otherwise. In the 1000 cases they studied, 94 percent had one or more reject patterns, while 20 percent had no primary pattern and 2.2 percent had neither a primary nor a secondary pattern. The cases with reject patterns were distributed as follows: single reject with no primary--9 percent; single reject with single primary--9 percent; single reject with multiple primary--5 percent; multiple reject with no primary--7 percent; multiple reject with single primary--29 percent; multiple reject with multiple primary--33 percent (Darley & Hagenah, 1955, p. 90). It seems then that reject patterns tended to be associated with the presence of primary patterns rather than with their absence.

It was not until 1961 that alternative rules for classifying primary patterns began to appear, and the first was Stephenson's (1961). Noting the difficulties with Darley's rules, he arbitrarily resolved the ambiguous situations and published a table of general instances of these resolutions. It is possible to use his table to classify, with perfect repeatability, any occupational family that includes from one to nine occupational scales, into classifications of primary, secondary and reject. The one great change from Darley's rules is with the reject decisions. Stephenson has changed this rule so that in general any family containing a majority of C range scores is ruled to be rejected.

A set of slightly more lenient primary and secondary rules was published a year later by Korn and Parker (1962) along with a much stricter rule for reject patterns. They also published normative data on the occurrence of each classification in the 1959 freshman class at Stanford University. These rules are as follows:

1. Primary pattern--a majority of B+ or higher scores on the specific occupational keys.
2. Secondary pattern--a majority of scores are B or higher,

provided that it does not qualify as a primary pattern.
3. Reject pattern--a majority of scores at standard score 15 and below. (Korn & Parker, 1962, pp. 223-224)

An inspection of Stephenson's (1961) table reveals that more patterns would be classified primary and more as secondary under Korn and Parker's rules than under Stephenson's. However, Korn and Parker would find fewer reject patterns with their rules than would Stephenson using his rules. How many fewer can be estimated by the fact that Korn and Parker found that 78 percent of their sample had no reject patterns, while, as stated above, Darley and Hagenah found only 6 percent of their sample had no reject patterns.

The various studies of low SVIB profiles appear to be divided between those which used Darley's rules for classifying primary patterns and those which used Korn and Parker's revision of these rules. Most of the former can be found reviewed in Athelstan's dissertation (1967), while Athelstan's work and one other dissertation have used the latter rules.

Studies of Low Profiles

Possibly the earliest study of this problem, and one not cited by Athelstan (1967), is that done by Kinsala and Phillips (1949). Unfortunately this work was published in a mimeographed "journal," and a copy of it could not be obtained for this study. From the source of its citation in The MMPI Handbook it evidently was concerned with the relationship between low profiles and MMPI variables.

Five other studies were done before Athelstan's, and they have received such an excellent review by him that they will be only briefly summarized here. Eichsteadt's (1951) dissertation, completed in 1949, dealt with the relationship between the number of primary patterns, MMPI scores, and responses on a general information form used at the University of Wisconsin Counseling Center. These counselees seen at the Center who had zero, one or three primary patterns did differ on some of the information items and on one MMPI clinical scale (the no-primary group had higher Psychasthenia scores than did the three-primary group). As Athelstan points out, the differentiating items are rather heterogeneous and Eichsteadt offers no unifying theory to tie them together in a meaningful way.

The next study reviewed by Athelstan is Bernstein's (1953) study of 142 ninth grade boys with no primary patterns. His hypotheses were that the absence of primary patterns would be associated with scholastic underachievement and adjustment difficulties and with having fathers in lower occupational levels. None was supported.

Cooper (1954) took advantage of the 1938 revision of the SVIB having "group scales," which represented a way of estimating whether a person's interests would be high on the scales within a particular occupational family without having to laboriously score all the scales within the family (this was useful before the advent of electronic scoring devices and is not often used on the 1966 revision). She found that students with no A on a group scale were no different from students with at least one A group scale, in academic ability, achievement, stability of vocational choice, or drop-out rate.

The most carefully done study reviewed by Athelstan was that of Cross (1955), who defined a low profile in a more stringent manner. His low-intensity interest group had not only no primary patterns but also no A scores at all. In comparing his low-intensity group with his high-intensity group (three or more primaries, exclusive of group IV), he used measures such as the MMPI, the Minnesota Personality Scale, the American Council on Education Psychological Examination (ACE), work experience, hobbies, and socio-economic variables. Among all these variables the only differences he found were that a greater proportion of the high-intensity group had worked full-time during the previous two summers and that a greater percentage of the low-intensity subjects were undecided about their vocational choice. However, among those in the low-intensity group who had made a vocational choice, "certainty" of choice was just as great as those making a choice in the high-intensity group. Athelstan emphasized the work Cross did in searching for relationships between the SVIB and the MMPI, including comparisons of means between the two groups on the clinical and ten non-clinical scales, between the two groups and a representative sample control group on the same variables, an analyses of profile types including high- and low-point codes, and so forth.

The final study found by Athelstan and reviewed by him is the one of Zytowski (1965) done on 35 low-intensity subjects seen at the University of Washington Counseling Service over a five year period. Using a comparison group of subjects having at least one primary pattern and matched with the low-profile group on initial of last name and year in which they were seen at the Service, Zytowski examined comparative scores on the Kuder, the SVIB non-occupational scales and the distribution of the L-I-D responses. He hypothesized that the low intensity profiles would show lower scores on the Immaturity Scale and on the Occupational Level Scale; would have fewer L and more I and D choices; and would have less "jagged" Kuder profiles. Only the hypothesis about less maturity was supported.[2]

Athelstan's general criticism of these studies is rather scathing, except for Cross' study. He raises a variety of methodological criticisms, but the failure he considers to be most important is that of being too lenient in defining a low profile. He heartily approves of Cross' method of including the restriction of having no A score (besides having no primary pattern) before one can say a profile is truly low. Not to do so, as the other studies did, would probably yield "a sample very heterogeneous with respect to interests" (Athelstan, 1967, p. 10). Although it is technically possible (though certainly unlikely) from the way primary patterns are defined to have as many as twenty-two A scores on the 1966 SVIB and still not have a primary pattern, Athelstan does not indicate why heterogenity of interests should be more of a problem for defining the low profile group than it would be for defining the high profile group. It would seem that the problem of differentiating between high and low profiles on the SVIB by definition ignores the variety of interests of the subjects and attempts to account for the difference in profiles by means of other areas of personality variables.

In any case, Athelstan seems correct in summarizing the data from the studies preceeding his as indicating that "the meaning of low profiles on the SVIB is still unclear," and "the prevalence of negative results among the few relevant studies suggests that a new approach to studying low profiles is needed" (1967, p. 18). This new approach by Athelstan consisted basically of a re-test of a low-profile and a control group four years after initial testing and an "essentially exploratory, descriptive study of low profiles" (p. 21). The data he used in the study consisted of a selection of SVIB's given to all incoming freshmen in 1961, the corresponding MMPI scores, Minnesota Scholastic Aptitude Test (MSAT) scores, Cooperative English Test scores, year of graduation from high school, high school percentile rank, history of counseling, as well as the follow-up SVIB scores and the responses to a vocational history and interest questionnaire. Defining his low-profile subjects as those having no A scores and no primary patterns as freshmen and his control group as every nth remaining person in the freshman class, he tested, among others, these hypotheses:

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[2] It should be noted that the 1966 revision of the SVIB no longer includes the Im scale, since it "consistently failed to hold up in validity studies" (Strong, 1966, p. 52).

> 1) There is no evidence that low profiles result from random responding to the Blank.
> 2) The item response patterns of men having low profiles will differ from those of an appropriate comparison group of men not having low profiles.
> 3) Low profiles will be as reliable upon retest as the profiles of a comparison group.
> 4) The item responses associated with low profiles will be as stable upon retest as the responses of a comparison group.
> 5) Men having low profiles will not have interests characteristic of those in occupations for which there are no existing scales.
>
> . . . .
>
> 8) The interest scores of low-profile men will change upon retest in ways similar to those of a comparison group, and in ways consistent with the "maturational" changes reported in other studies. (Athelstan, 1967, p. 21)

Athelstan admitted that not all of these hypotheses could be tested formally, but could be evaluated only "indirectly by considering various kinds of evidence relating to each of them" (p. 21).

In his data he found support for hypothesis 1) by examination of the answer sheets for "obvious" random answering or "responding in any other systematically unusual fashion" (p. 82). Hypothesis 2) was supported in that the low-profile sheets had a greater proportion of Dislike responses and fewer Like and Indifferent responses than did the control group sheets. Hypothesis 3) was supported by the finding that the median test-retest individual profile reliability coefficient for the low-profile group was only slightly lower than that for the control group. Hypothesis 4) was not supported; the responses of the low-profile subjects to many items changed considerably on retest. Hypothesis 5) was given indirect support in that a rescoring of the blanks of the low-profile subjects on ten new scales which had just become available yielded only a "few A scores, which could as well have resulted from scoring changes as from the use of new scales" (p. 83). Hypothesis 8) was interpreted as being supported, although the evidential basis for this decision was not clear. In fact, at an earlier point Athelstan had said,

> The present distribution of primary patterns among the low-profile subjects also differs from the original distribution exhibited four years earlier by the control group, suggesting that the low-profile subjects are not simply catching up with late-maturing interests. (p. 73)

This statement seems to contradict the position of hypothesis 8) that changes would be of a maturational nature.

Athelstan also interpreted his data as supporting Strong's (1943) idea that many low-profile men should go into business areas. Again, it is not clear how this conclusion was drawn, for while his data reported that 32 percent of his retested low-profile group had primaries in area IX (Business Contact), only 10 percent had primaries in area VIII (Business Detail) while 27 percent and 26 percent had primaries in areas X (Verbal-Linguistic) and V (Social Service) respectively. Taking into account that the largest change in scores in the low-profile group was in area V, it seems more important to interpret the number of primaries in area IX as having to do more with interest in people than with interest in business.

Finally, Athelstan added to those researchers[3] who have found no relationship between the MMPI and the SVIB; his two groups did not differ on mean scores on any of the common MMPI scales.

Since Athelstan's study, two additional studies have been done which have dealt with the problem of low profiles. The first, by Deutscher (1966), was a study which managed to use a personality inventory other than the MMPI: the Edwards Personal Preference Schedule (EPPS). Deutscher used the EPPS as well as measures of academic ability (the American College Tests) and a personal information inventory to examine high-intensity profiles (those having one or more primary interest patterns) and low-intensity profiles (those having no primary patterns), as defined by Korn and Parker's rules (1962). He found that the two kinds of profiles did not differ on the ACT, but they did reveal different manifest need structures. The lower intensity subjects appeared to have lower needs for deference, order, abasement, and nurturance and a higher need for autonomy. Also, the personal information inventory revealed that the low-intensity students had more mothers with college degrees than did the high-intensity students, and the low-intensity students reported more often than the high-intensity students that they were attending college for social enjoyment.

Dolliver's (1966) study dealt only incidently with the problem of low profiles. In a study which was primarily concerned with the agreement of inventoried and expressed interests, he hypothesized that the more spread the interests on the SVIB the more personal confusion the person would manifest. This hypothesis failed to be confirmed, but Dolliver did find that among those persons whose expressed and inventoried interests agreed there were more Dislike responses and a greater number of occupations scoring low.

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[3] Anker, Townsend, and O'Connor (1963) factor analyzed scores on the MMPI, Work Values Inventory, SVIB, and various decision-making ability scores and also found no factors which contained MMPI and SVIB scales together.

It should be noted that all of these studies have treated the problem as a class distinction: those subjects with no primary patterns have been compared with subjects with one or more primary patterns. This treatment of the problem as a distinction among groups has some difficulties with it. For one thing, it is very wasteful of subjects, in that the percentage of men with no primary patterns ranges from around 6 to 40 percent (cf. Table 2 in this study). For example, Athelstan's study reported that only 151 out of 1535 students met the criterion of having no primary patterns and no A occupations, while only another 200 of those having primary patterns or A's were used as a comparison group. Some 1100 records were not used in this study.

Another difficulty encountered in using criterion groups, is, as Athelstan pointed out, the problem of defining the groups. Some have defined their criterion groups as including those with no primary patterns; some have used no primary nor secondary; some would have it simply no A occupations, ignoring the possibility of having primary patterns on "no-A" profiles; and Athelstan decided on no primary and no A occupations. Further, these contradictory ways of defining the criterion groups do not produce simply subsets of one another; they produce groups which include different subjects, making them qualitatively different from one another.

It seemed appropriate to attempt to bypass these problems by using criterion variables in place of criterion groups. The problem becomes, then, not simply what is it that causes a person to have no primary pattern (or no secondary pattern or no A occupations, etc.) on the SVIB but what characteristics of the person are related to profile height on the SVIB? What is there about a person which allows him to have many SVIB occupational interests, and what about the person tends to limit the number of occupational interests on the SVIB? Stating the problem in terms of variables instead of groups allows full use of the subject population and does not allow one to wonder if the wrong subjects have been included or excluded from the criterion groups.

Cognitive Style Literature

Most of the studies cited so far as attempts to uncover relationships between patterns on the SVIB and personality variables would probably be labeled as studies of personality dynamics, as opposed to personality structure, according to the distinctions made in the Annual Review of Psychology in the last seven years (cf. Messick, 1961). Studies of personality dynamics are supposed to have been concerned with "motives, needs, drives, and the functional interplay of forces involved in transient relations with the environment" (Klein, Barr, & Wolitzky, 1967, p. 467), while personality structures have been interpreted as being "stable, relatively enduring components of personality organization that are invoked to account for recurring similarities and consistencies in behavior over time and over situations" (Messick, 1961, p. 93). Wiggins (1968) points out that a great deal of the content of the structuralist position is furnished by the traditions of Eysenck, Cattell, and Guilford, with a concomitant methodological emphasis upon multivariate procedures of analysis, especially upon factor analysis.

However, one notices in both Wiggins' (1968) and Klein, Barr, and Wolitzky's (1967) reviews that another large source of content for structural studies is that furnished by the various "cognitive style" theorists. Though some attempts have been made to relate this large area of personality-structure investigations to the SVIB, as yet no attempt has been made to investigate how the various cognitive style variables may account for some of the variance in interest intensity on the SVIB.

The concept of cognitive style (also called cognitive attitudes, cognitive abilities, cognitive strategies and cognitive control variables) seems to have been used very early by Klein (1951), who remains today one of its most eloquent spokesmen (Klein, Barr, & Wolitzky, 1967). In this latter article Klein seems to be moving away from the psychoanalytic ego-psychology in which he started toward a more general information-processing point of view. He still sees the cognitive structures with which he is concerned as having "the steering functions of regulating, promoting, or dampening adaptive feedback" (1967, p. 483), but he sees his approach today as essentially a "functional" one. Regulative constancies such as "personal construct" or "field-articulating tendency" should be viewed in "terms of the achievement of an optimum adaptive balance of some kind in relation to the demands of both the situation and motivating tendencies" (p. 484).

> A regulative mode thus functions as a cognitive transform, giving to the "stimulus" situation its meaning and, therefore, its background and foreground characteristics, as well as both conscious and unconscious aspects of response. In its application to the problem of personality constancy, cognitive control implies ways of dealing with situations--attitudes or orientations--that become organized into economical strategies of encounter. Some of these are of high generality, others are of low generality, and research on personality is the study of this heirarchy. (pp. 484-485)

It is Klein's further belief that these accommodative patterns are to be found in the behavior of any person who has the intention (not necessarily conscious) of making a realistic appraisal and assesment of a situation (Klein, 1958).

There are several other groups actively engaged in cognitive personality research, many of whom, like Schroder, Driver, and Streufert (1967), understand the cognitive processes to include orientations that act like "filters" in selecting certain kinds of information from the environment and to include something like a program or set of rules which regulates how the information is transformed and combined in specific ways. A crucial aspect of this processing of information is the way it is grouped into categories through various decision processes. Here Bruner (1957) has provided seminal theorizing for understanding the importance of this process. His rallying cry of "No perception without categorization!" stresses the unity of the cognitive and perceptual processes, and even makes such areas as signal-detection theory relevant to cognitive processes.

It may be possible to increase our understanding of the SVIB by analyzing its stimulus-demand characteristics in terms of this general cognitive theory. Basically, the task confronting a person taking the SVIB is that of making decisions (or recalling decisions already made) about 399 items concerning vocational and avocational interests, school subjects, personality types, etc. Most of the items require free categorization into the categories of Like, Indifferent, or Dislike, but others require the person to rank various items according to how interesting they are, to compare the intensity of interest on two kinds of activities, etc. In any case, the basic process seems to be a decisional one, requiring the person to attend to a particular kind of activity or person and to sort through his memory for stored information about his emotional reactivity to experiences with the particular activity or person. In some cases (i.e., with some items) the information is immediately available and may even produce a secondary emotional reaction upon its introduction into the attentional center. In other cases the person may have had no experience with the item and may have to generate some kind of emotional reaction by searching various memory items which somehow seem associated with the particular one being attended to (this is not to imply that this is a conscious search nor that in the first case associations are not furnishing information to the decisional process; in these hypothetical distinctions the point is, which seems to furnish the major part of the information for the decision--the primary stimulus or the associations to it?). In any case, the basic decision to be made (for most items) is whether the emotional reaction is one that can be classified as a "liking," one that can be classified as a "disliking," - or one that seems so weak that it can be safely assumed that it fits into an "indifferent" category.

More is required, however, of the subject than just being able to respond emotionally to the different items of the SVIB if he is to end up with a profile which displays positive vocational interests: he must match the interests of a particular occupational group. However, this match of interests is not accomplished in the SVIB in an absolute way, as the manual points out: ". . . the measures of interests by the SVIB depends on differences in interest patterns between occupational groups, not on any absolute indication of interest" (Strong, 1966, p. 26). This is true because ". . . the items that are weighted on an occupational scale are not necessarily the ones that men in an occupation select most often--rather they are items that men in that group answer differently from other men" (ibid.). The "other men" in this process were, as the manual points out, all of the other men used in the standardization of the other occupational scales, and this group was given the label "men-in-general," or "MIG."[4] For an individual to score high on a particular occupational scale, he must answer the specified items in a way different from men-in-general and in a way which matched the typical response of the men in that particular occupational standardization sample. When a large number of occupational scales receive high scores from an individual, then it means that he rather consistently differentiated himself from the men-in-general group and that he was capable of including several different patterns in his responses.[5] If he does not differentiate his responses from those of men-in-general or if his interest patterns are not any of those of the men in the standardization samples, then he will end up with what has been called a low profile on the SVIB.

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[4] Yet another group of men called men-in-general was involved in establishing the validity statistics of the SVIB, according to the manual. The use of the first, larger group for the item analysis weighted all the occupations involved equally. The occupations in the second group of men-in-general, many of whose representatives were selected from the first group, were weighted approximately according to their frequencies in the general college-educated population. After the items for each scale were selected through the use of the first group, the scales were used to score the responses of the men in the second group, and a statistic was calculated for each particular scale describing how well the scale separated the average score on a particular scale of the men in that scale's standardization sample from the average score of the weighted men-in-general group on the same scale. This statistic was used to help determine if a scale functioned well enough to be included in the SVIB. In addition, the range of the middle third of scores of the second men-in-general group on each scale is now indicated on the 1966 SVIB profile sheet by a shaded area; formerly the shaded area was the middle two-thirds of the distribution of chance scores on each scale determined by using dice throws. The present discussion is concerned only with the process involving the first men-in-general group.

[5] It is possible to score high on many different SVIB scales, because each scale uses only a portion of the 399 items (from 35 to 98 in the 1966 revision). Thus those interests of the different occupations which are contradictory do not necessarily involve common items which would have to be scored in contradictory directions.

From a cognitive point of view, the requirement that the individual, in order to produce a high scale score, be able to give his responses in fairly well-articulated patterns suggests that his information receiving, storage, and retrival systems must be differentiated to some minimal degree. In order to have differentiated responses to the individual interest items, he must be able cognitively to make the distinctions among the different interest elements to which he is asked to respond. That is, the more an individual tends to make only global or gross distinctions among these items, the less selectively he would be able to respond to the items. If the items which weight a particular SVIB occupational scale require finer distinctions among interests than the individual prefers to make, or is capable of making, then he will not be able to obtain a high score on that particular scale, even if he claims interest in that particular occupation. However, the condition of being cognitively differentiated does not necessarily mean that the individual will make a large number of high occupational-scale scores. It is hypothesized that cognitive differentiation is a necessary but not a sufficient condition for matching the different occupational interest patterns. Another necessary condition is that the individual have reasons, or motivations, for patterning his differentiated interests elements in particular fashions. These motivational conditions are not of primary interest at this point--they have been investigated by many other studies.

A general hypothesis of this study was, then, that the "cognitive map" a person has of his vocational, avocational, school subject, personality, etc., worlds must be first of all differentiated and then organized in a particular fashion if he is to match a scale on the SVIB. More generally, the person must have a cognitive structure which permits this differentiated cognitive map, or have cognitive styles which permit the erection of a differentiated cognitive structure. The less differentiated his cognitive structures, the less capable he should be of producing the differentiated responses necessary to match an SVIB pattern, no matter which particular occupational-scale pattern this may be.

Possibly further complicating the responses to the SVIB are the "risk" characteristics of the task. That is, are there desirable consequences to be gained and undesirable consequences to be avoided by means of answering the questions? Perhaps these risks can be seen as being of two general kinds: the risks attendant upon gaining information about oneself, and the risks attendant upon giving important-others information about oneself. Most late adolescents (and perhaps most people) seem to experience some anxiousness about psychological tests, with perhaps the main concern being whether or not the test will reveal the person to be abnormal in some way.

This risk involved in gaining information about oneself can be related to taking the SVIB in at least three ways. First, there is the information one gains about oneself in answering the Strong item by item: whether it is easy or hard to decide the items, whether one has heard of these occupations or not, etc. Second, a person can get information from his overall impression as to how he is answering the items as he progresses through the test (when this writer took the Strong he began to have the feeling as he was going through it that he was "indifferent" to too many items, that he maybe was "wishy-washy"). The final risk is the unknown way the test results will categorize the person, as for example, failing to support an interest in being a physician or indicating the occupation "one should be in" is really quite undesirable.

The other major risk involved in taking the SVIB is that of letting some important other person know some possibly unflattering information about oneself. In answering the items, then, the person must choose between trying to be honest and possibly revealing some undesirable information about himself or of trying to present himself in a socially desirable light but at the same time risk not receiving any helpful information about himself.

Whether or not these risk and cognitive task characteristics of the SVIB influence in a systematic way the patterns of occupational interests is something that has to be determined empirically. Morris (1966), for example, found that "propensity for risk taking" influenced strongly the way high school seniors made hypothetical choices of vocations, within which they had earlier rated their probabilities of achieving success. Mahone (1960) found that those students who were fearful of failure (and thus not willing to risk much) were more likely to be judged as having unrealistic vocational aspirations than students less fearful of failure. However, this "debilitating anxiety" did not discriminate between those who did and did not predict accurately their primary and secondary patterns on the Strong (as, incidently, scored by Darley's 1941 unclear rules).

Not many studies have been undertaken relating cognitive variables to performance on the SVIB. Witkin, famous for his Field Independent-

Dependent variable (now being called Articulated versus Global Field approaches), thought that a person with a non-articulated cognitive style might come out with Service Area type occupations on the SVIB (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962), but evidently he had little data to back this up. Pierson (1965) reported in his dissertation that he had found some relationships between cognitive styles and various of the broad vocational area scales of the pre-1966 SVIB. Field Independence (Witkin's variable) was related positively to Physical Science and Technical Sales but negatively to Sales Interests and Verbal-Linguistic interests. Pierson concluded that Field Independence was related to the impersonal types of occupations, while Field-Dependent subjects were more interested in interpersonal concerns.

Chung (1967) in his dissertation looked at the relations between vocational preferences and identification and the cognitive styles called Field Independence-Dependence, Leveling-Sharpening, Constricted-Flexible Control, and Equivalence Range (all variables studied by Gardner, Holzman, Klein, Linton, & Spence, 1959, and Gardner, Jackson, & Messick, 1960). Using discriminant analysis he found that scores on the various measures of the cognitive variables could discriminate among the eight areas of college majors, but he could find no relationship between Kuder scores, vocational commitment or vocational identification and the cognitive style measures.

Levine (1967) in his dissertation chose to look at only one variable of cognitive style, that of Constricted-Flexible Control (CF), and he attempted to assay how it related to the cognitive handling of impulses in three different vocational groups. He concluded that the instrument traditionally used to measure CF (Gardner et al., 1959) really measures some kind of ability to tolerate stress and not a particular style of coping.

This not very extensive literature indicates that not a great deal of thought and study has been attempted in relating cognitive variables to vocational interests, let alone characteristics of the SVIB profile. The attempts at providing a theory relating the two seem to be limited to psychoanalytic ego-psychology (Levine, 1967) and to some kind of "value dimensions which were reflected in the cognitive styles and vocational interests" (Pierson, 1965). In fact, as has already been intimated, the SVIB has not been well integrated into any kind of established personality theory, but has more or less rested its case upon the empirical statement that "it works." Thus it may be premature to attempt, as did Levine, to unite cognitive theory and vocational choices through a carefully reasoned, deductive model which can economically assay only one hypothesized relationship. Since these relationships are just beginning to be explored, it may be better to attempt, as did Chung (1967), a more haphazard but more general study which would include a variety of measures.

It was felt that if a more preliminary kind of study which would involve a variety of cognitive measures was to be undertaken, then again, in the interest of economy of research, it would be important that these measures do not involve a great deal of individual attention to each subject. Similarly, if it were conceivable that cognitive measures may be able to account for some of the flatness of the profiles on the SVIB, then it would be important that these measures be easily administered by counselors or testing assistants. For a preliminary investigation it thus seemed appropriate to choose instruments which could be group-administered and which could be scored easily without any required expert judgment.

With these thoughts in mind a survey was made of the various cognitive-variable research traditions for pertinent instruments and variables, and the following discussion includes those which were felt to be promising in attacking the problem of varying SVIB profile flatness.

One of the longest traditions of working on "cognitive structures" is that of Rokeach (1951), who considered himself to be working in the traditions of Tolman and of Lewin. Culminating his early work on "narrow-mindedness" was his book, The Open and Closed Mind (Rokeach, 1960), and the publication of his Dogmatism Scale. Another long tradition, that of Witkin and his associates, stems from laboratory research in perception (Witkin, 1949; Witkin, Lewis, Hertzman, Machover, Bretnall Meissner, & Wapner, 1954). Using a variety of perceptual instruments to measure the dimension called Field Dependence-Independence, Witkin and his associates have since broadened their concern to the more general "Global-Differentiated cognitive style" (Faterson, 1962; Witkin, 1965).

The study of another dimension of cognitive functioning, Complexity-Simplicity, was reported by Barron (1953; Barron & Welsh, 1952). No theoretical starting point for this dimension existed, but rather it sprang from the factor analysis of responses to an art-preference test (Welsh, 1949). The term "Complexity-Simplicity" was rendered less clear when Bieri took it over (with no qualifying adjectives) to label his work on interpersonal constructs, in the Kelly tradition (Bieri, 1955). Yet another group moved into the area with different instruments and from a different theoretical background (Lewinian, as with Rokeach) to add to the confusion (Harvey, Hunt, & Schroder, 1961). Finally, Vannoy (1965) collected a large number of these instruments purporting to be measuring this Complexity-Simplicity dimension and through factor analysis found, as many suspected, that there was no single large factor common to these tests, but rather there seemed to be at least eight different factors among the measures.

Another long tradition of cognitive work and yet another theoretical orientation can be found in the research of Klein and Gardner and their associates at the Menninger Foundation. Stemming from psychoanalytic ego-psychology, their work has dealt with variables they have called cognitive control variables, i.e., variables which regulate the style with which a person adapts to his environment in his attempt to satisfy his drives. They have included Witkin's Field Independence-Dependence variable as one of their six cognitive control variables (Gardner et al., 1959).

Another more loosely related group, which has involved men working at the Educational Testing Service, at Pennsylvania State, at Duke, and other places, has included Messick, Kogan, Jackson, and Wallach. Seemingly following no particular theoretical orientation, they have researched broadly throughout the cognitive area. Two of them, Jackson and Messick, have worked with Gardner (Gardner, Jackson, & Messick, 1960), and have continued work on Gardner's (1953) own unique contribution to cognitive variables, Equivalence Range (Clayton & Jackson, 1961; Sloane, Gorlow, & Jackson, 1963; Messick & Kogan, 1963). Closely related to this group's work has been the development of a quantative measure of Category Width by Pettigrew (1958) and the comparison of several measures of Equivalence Range by Fillenbaum (1959). It is also of interest to note how often these investigators have cited Bruner as being of particular encouragement (cf. Pettigrew, 1958), and to note that Bruner was also influential on the early work of Klein (cf. Smith & Klein, 1953).

Finally, a fairly recent entrance to the list of cognitive variables has been Rotter's variable of the expectation of Internal-External Control of reinforcements (Rotter, 1966; Lefcourt, 1966). This variable, too, can be thought of as a style variable, a way of cognizing the world.

This survey of the relevant cognitive research literature turned up five general variables which it was felt could be influencing profile-flatness on the SVIB. As will be noted, it was felt that the probable effect of most of these variables would be accomplished through the general concept of cognitive differentiation. That is, as was already pointed out, in order for a person to have an _A_ occupation on the SVIB he must answer the questions in a way which differentiates his responses from those of men-in-general on a particular occupational scale. And it was proposed that in order for a person to make such differentiated responses he must have an underlying differentiated cognitive map of the relevant vocational, personality, avocational, etc., areas which are tapped by this test. Any cognitive style which promotes this kind of differentiation should also promote occupational differentiation or high occupational profiles on the SVIB. Any style which hinders such cognitive differentiation should also make it more unlikely that an individual will produce a differentiated pattern of answers which will closely match any of the given patterns of the occupational scales. As mentioned, at least five general cognitive style variables were found which would seem to be related to this cognitive differentiation.

Hypothesized Relationships

Predictor Variables

Field-Dependence-Independence. As mentioned, this variable is now claimed to be a perceptual manifestation of a broader dimension of personality, the articulateness-of-experience dimension (Faterson, 1962). The variable is measuring the individual's ability to keep an item separate from a field or embedding context. A variety of instruments have been used to measure this dimension, including the rod-and-frame test, the tilting chair, and an Embedded Figures Test (EFT) (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962). Only the last instrument could be cheaply produced, and it became much more useful when a group version was developed (Messick & Fritzky, 1963) and found to correlate very highly with the individually administered version (Jackson, Messick, & Myers, 1964). The contrasting styles which a test such as the EFT is getting at include, as Wallach (1962) has described it, on the one hand a style of cognitive functioning that is active, analytical, articulated, specific, and critical, and, on the other, a style that is passive, global, vague, diffuse, and uncritical. The "articulated" person has, according to Witkin (1965), a better sense of separate identity from his environment and from other people; thus, his structural self is more articulated also. One could hypothesize that the more field-independent person would also experience his vocational environment in a more differentiated fashion than would a field-dependent person. The field-dependent person would see less differences between vocations and would thus have more difficulty experiencing differentiated emotional reactions to the various vocations. Other things being equal, the field-dependent person should have fewer primary interest patterns on the SVIB, because he does not have the differentiated interests necessary to match a particular occupational scale.

Complexity-Simplicity. As was mentioned, the first instrument used to measure this dimension was the Barron-Welsh Art scale (Barron & Welsh, 1952), but an agree-disagree scale was also developed by Barron from his Independence of Judgment scale which correlated highly with the Art scale (Barron, 1953). In Vannoy's (1965) factor-analysis study of the various instruments which had been used to measure this dimension, Barron's Complexity-Simplicity (CS) scale was located on Factor I along with a similar kind of scale by Budner (1962) called the Intolerance of Ambiguity scale. Since the former loaded .72 and the latter, -.68 on Factor I, it was proposed for this study to reverse the scoring on Budner's scale and combine the two for a measure of what Vannoy termed Complexity of Verbal Apparatus. The possession of a more complex verbal apparatus, he said, seems to be conducive to, or correlated with, a more varied and possibly more "equivocal" interpretation of experience. In Berkowitz' (1957) investigation of the relationship between Klein's variable of leveling tendencies and Barron's attitude scale on CS, evidence was found for the hypothesis that "individuals preferring simple, orderly phenomenal experiences tended to achieve this simplicity by leveling, that is, by forgetting some of the details of prior experiences" (Berkowitz, 1957). It would seem, then, that CS would also affect the person's way of categorizing his knowledge about vocations, this time more explicitly in terms of verbal categories. A more verbally complex person would have more differentiated patterns of response available to a verbally constructed test such as the SVIB. In so far as a person is not capable of responding differentially, then his interest profile on the SVIB should be flat, because he is not making the distinctions among occupations necessary for him to match the distinctive answers of the standardization sample of a particular occupation.

Equivalence Range. This dimension has to do with the person's style in the size of categories he forms, i.e., how many different objects he is comfortable in saying belong together. Gardner et al. (1959) used an Object Sorting Test (OST) to measure this dimension, scoring simply the number of different categories a person used in grouping together a variety of objects. As mentioned, Pettigrew (1958) devised a scale (CW) to measure a similar dimension, and attempts were also made to relate the CW scale to Complexity-Simplicity. It seemed reasonable that the person who used narrow categories needed many of them and thus needed a more complex cognitive structure. However, Vannoy (1965) found that CW with the Quantative score on the SCAT formed a separate factor in his study, so CW was poorly related to the other measures of complexity. Fillenbaum (1959) correlated several of these equivalence range tests as well as some new ones of his own devising (such as the Synonymity Task) and found them to be more independent than he had anticipated. Clayton and Jackson (1961) developed a group version (paper and pencil) of Gardner's OST, with which Messick and Kogan (1963) discovered the necessity of obtaining at least two different scores from sorting tests, and which Sloane, Gorlow, and Jackson (1963) demonstrated could be substituted for the original, individually administered test.

It was proposed for the present study to use several measures of equivalence range in an attempt to account for low intensity of interests on the SVIB. As Sloane et al. (1963) pointed out, equivalence range scales can be considered to be measuring a "preferred mode of acting so as to maximize similarities or differences among objects." If the style of maximizing similarities between objects is generalizable to maximizing similarities between vocations, avocations, etc., then the person with such a style will again not have the requisite differentiated responses in matching the responses of the standardization samples of the various occupational scales. Those who tend to maximize differences, or who have smaller equivalence ranges, should have greater chances of producing the differentiation of responses necessary to match particular occupational scales.

Internal-External Control. Though not often labeled as a cognitive style variable, Rotter's (1966) personality dimension (I-E) seems to function in a manner similar to these variables. In general, the dimension taps the person's belief as to how much his own behavior produces the positive and negative events of his life, or, how much control he believes he has over his own reinforcements. This basic cognitive set seems to influence the way the person "knows" other aspects of his environment. For example, Lefcourt (1966) produced a great deal of evidence to show that Southern whites feel much more in control of their reinforcements than do Southern blacks. Another study (Davis & Phares, 1967) sought the relationship between information-seeking and the I-E variable and found some support for the hypothesis that Internals sought more relevant information than did Externals to whom the information appeared as relatively useless. Liverant and Scodel (1960) found that Externals, in a betting situation, played hunches on previous outcomes more than did Internals, who seemed cautious and played a planned selection of probabilities, presumably as a way of maintaining control. Finally, one study has sought correlations between I-E and the SVIB scales and found that the Artist, Musician, and Author-Journalist scales correlated most highly with external control (the occupiers of these vocations have a greater belief in the role of chance and luck in their lives) while a scattering of various other technical and administrator scales correlated most highly with the expectancy of internal control (Zytowski, 1967). The correlations in this study were, for the most part low, and the correlations with the internal-control end of the I-E scale did not make a very meaningful pattern. Nevertheless, it appeared possible that I-E could have some general relationship with vocational choice through differing motivations to collect vocational information. It would appear that Internals would have more reason to seek and attend to information about vocations than would Externals, who would probably perceive vocational choice and advancement more as a matter of luck than as a matter of choosing and planning for. Again, other things being equal, the person who has more finely articulated information about vocations, etc., will probably be more capable of making the distinctions on the SVIB necessary to match a particular occupational scale.

Dogmatism. Rokeach's (1960) Dogmatism Scale was intended to be a measure of the relative openness and closedness of conceptual systems. Kaplan and Singer (1963) have suggested further that a highly dogmatic person also lacks self-awareness and even suffers from an alienation from his sensory modalities. Finding such a general variable cutting across these different information-processing realms warrants calling this dimension a dimension of cognitive style also (cf. Witkin, 1965). Its relationship to the SVIB profile was difficult to predict, but it seemed highly probable that its effect would be moderated by the presence of another variable, level of occupational aspiration. That is, a relatively closed mind would produce a very sharp peak on the profile if the person were professionally minded; if he had interests more in the "blue-collar" jobs, then it is possible that his rejection of the SVIB occupations would be more complete, yielding a lower profile, than would the rejection of a more open-minded "blue-collar" aspirer.

Specialization Level. In addition to the occupational scales on the SVIB, there are four non-occupational scales, Specialization Level, Occupational Level, Masculinity-Femininity, and Academic Achievement. Of these four, it seemed possible that the first one, Specialization Level, was tapping a kind of cognitive differentiation. It was devised by comparing the answer patterns of medical doctors who were interested in very specialized fields of medicine with those doctors who were interested in general practice. A high score could represent, then, an interest in stressing differences among things, while a low score could suggest an interest in similarities among, and generalities about, objects in the cognitive world. Though Super and Crites (1962, p. 455) have argued that, "Research in the 'undifferentiated' group both in college and elsewhere should presumably be pressed, using other points of reference than that of the standard scales," it was felt to be important that some understanding be gained of the relationship of this scale to the other cognitive scales as well as to profile height.

Hypotheses

It may be helpful at this point to summarize the predicted relationships between the various cognitive-style variables and SVIB profile height. The general concept through which most of these variables were hypothesized to interact with the SVIB was the person's ability to make patterned distinctions among the various vocational, avocational, etc., items of the Strong. Any style which hinders a person from making such distinctions should increase the probability of the person obtaining a flat profile on the SVIB; conversely, other things being equal, any style which helps a person to make distinctions should permit the person to obtain more primary interest patterns on the SVIB.

These hypotheses were admittedly general and were to be thought of as being preliminary in nature. They were intended as guidelines in searching for more specific hypotheses, not only relating each of the individual cognitive-style variables to SVIB profile height, but also interrelating the variables in complex interactions with each other as the complex cognitive structures affect interest intensity. The plan for this study was to follow a design similar to Noonan's (1967), which used initial hypotheses to guide a search for more specific hypotheses in an initial sample of subjects. Upon analyzing the data from the initial sample, Noonan noted the more subtle relations between the predictors and the criteria and used these as refined hypotheses to cross-validate on a final sample of subjects.

The initial hypotheses were:

(1) SVIB interest profiles are partially a function of the extent of the field dependence or independence of the subject. The more field dependent, or less well-articulated the subject is, the less articulated or differentiated he experiences the vocational world, and he is, therefore, less capable of producing the differentiated responses necessary to match occupational scales on the SVIB. Other things being equal, the more field independent the person is, the more he will be able to match the occupational scales on

the SVIB.

(2) SVIB interest profiles are partially a function of the extent of the person's preference of cognitive simplicity or complexity. The more a person simplifies his cognitive structure the less capable he is of responding differentially in a manner which will match occupational scales on the SVIB. The more a person prefers cognitive complexity the more capable the person will be of performing such matching.

(3) SVIB interest profiles are partially a function of the broadness of the categories a person prefers to use. The broader the categories he prefers to use, or the more he maximizes similarities among objects, the less capable he will be of responding differentially to the SVIB and, thus, of matching any particular occupational scale. The narrower the categories he prefers to use, or the more he maximizes differences, the more capable he will be of differentially responding.

(4) SVIB interest profiles are partially a function of the extent to which a person believes luck or chance plays a role in his life. The more a person sees his reinforcements as being externally controlled the less reason he has to attend to vocational differences and the less capable he is, therefore, of responding in a differentiated fashion to the SVIB in order to match a particular interest scale. The more a person sees his reinforcements as being internally controlled the more reason he has to differentiate his knowledge of vocations (in order to make a wise choice) and the more capable he will be of differentially responding to the SVIB.

(5) SVIB interest profiles are partially a function of the extent to which a person's conceptual system is open or closed and of the extent to which the person's aspirations are on more professional or on more non-professional levels. Among those who aspire to lower occupational levels, those with relatively closed systems should reject more completely the various professional alternatives on the SVIB and thus end up with a lower average profile height than those with relatively open systems. It is not certain how the open and closed aspirers to high occupational levels will differ on profile height.

As mentioned, these hypotheses were intended to be used as guides in investigating the relationships between the cognitive differentiation variables and SVIB occupational profile height. Through investigating these relationships in a preliminary sample, it was hoped that the various possible interactions between the predictor variables and the criteria would become clearer, making possible the formulation of more specific hypotheses as to how the various dimensions of cognitive differentiation would interact either to produce flat interest profiles or to allow high interest profiles on the SVIB.

CHAPTER II

RESEARCH DESIGN AND METHODOLOGY

This study began when responses were obtained from a large number of male university students to the Strong Vocational Interest Blank For Men (SVIB) and to a battery of cognitive-differentiation tests and various control tests. After the data were collected from these students, a mixture of beginning psychology course "volunteers" and paid volunteers, the tests were scored and the subjects' data randomly divided into an initial sample and a cross-validation sample. Intercorrelations among all variables were obtained from the two samples, as well as canonical correlation analyses. A moderator analysis was performed between the variables in the initial sample, and those moderated relationships found to be statistically significant in this initial sample were examined in the cross-validation sample for significance. These procedures are explained in further detail below.

Selection and Description of Instruments

Predictor Instruments

Field Dependence-Independence. In this study the Field Dependence-Independence instrument was the group version of the Embedded Figures Test (Messick & Fritzky, 1963) as altered by Jennings (1968) and further altered for this study. It consisted of sixteen complex figures, each of which contained one of fivo smaller, simple figures within its design.

The subject's task was to decide which one of the five simple figures was within each of the sixteen complex figures and to mark his decision on a multiple-choice answer sheet. It was a timed test, with a limit of sixteen minutes to complete all sixteen figures. The score was the number of embedded figures correctly identified and thus was a measure of Field-Independence.

Complexity-Simplicity. As was pointed out in Chapter I, a large variety of instruments exists purporting to measure this dimension. In this study two instruments were combined to measure Vannoy's (1965) first factor of Complexity-Simplicity, Complexity of Verbal Apparatus. The instruments were Barron's (1953) twenty-two item Complexity-Simplicity attitude scale and Budner's (1962) twenty-four item Intolerance of Ambiguity scale. Both of these scales are agree-disagree, or true-false, scales, but they were loaded in opposite direction on Vannoy's Factor I. It was necessary, then, to reverse the scoring on the Intolerance of Ambiguity scale in order that its score could be added directly to the score of the Barron attitude scale. Thus, tolerance of ambiguity was added to preference for complexity to yield a total score measuring Complexity of Verbal Apparatus. Since the two scales were combined in this fashion, only the total score was computed and used in this study.

Equivalence Range. This dimension also had been measured by a variety of instruments, most of which were fairly simple to administer and score. The instruments which were selected for this study were:

(1) The Category Width Scale. This is a twenty item scale (Pettigrew, 1958) composed of statements about various statistical averages for a variety of events, e.g., "The average annual rainfall for New York has been 40 inches." The subject is then asked to

choose an estimate of what the greatest and the least amount of the event has been in a given time (with two scores per item, forty scores are thus obtained from this scale). The choices are weighted so that those furthest from the average receive the most points while choices closest to the average receive the least points. A greater number of points thus indicates a use of broader Category Widths, or a greater equivalence range.

(2) The Synonymity Task. This instrument consists of thirteen statements with an adjective in the statement singled out for replacement by other, almost synonymous adjectives. The subject's task is to indicate how many, from the list of adjectives for each statement, he thinks could be substituted for the original adjective without substantially changing the meaning of the sentence. Fillenbaum (1959) reported a reliability of .92 for his instrument with a range of scores from 12 to 88 (variance--389), indicating it had the properties desirable for measuring this kind of Verbal Equivalence Range. Since the scores are obtained by simply counting the number of adjectives circled, the higher the score, the broader the Verbal Equivalence Range of the subject. Another way of stating it is to say the subject prefers to maximize similarities among words.

(3) The Group Object Sorting Test. As mentioned, the group version of the OST was devised by Clayton and Jackson (1961) to substitute for the individually administered version in which the subject actually manipulated various objects into sorting-groups. The paper-and-pencil version used in this study consists of a list of fifty names of common objects and an answer sheet divided into

several large blank spaces. The subject is asked to write into the various spaces the names of those objects he thinks belong together (for any reason whatsoever) and to label the groups A, B, C, etc. The instructions indicate the person is to sort all of the object-names, but in case he cannot find any group in which to include a few of the names he may place each of them into a space by itself. The original scoring for the OST was simply to count the number of spaces, or categories, used, with a higher score indicating a finer, or less coarse, category system. However, Messick and Kogan (1963) found that two fairly independent scores could be derived from an OST: the number of categories which include two or more objects and the number of categories containing only a single object. They found both these scores to be reliable and to correlate differently with other cognitive and personality measures. They labeled the first score Conceptual Differentiation and the second Compartmentalization, or Restricted Productive Ideation. It seemed appropriate in this study to call them Conceptual Differentiation (CD) and Conceptual Compartmentalization (CC). The correlation between these two scores in their study was only .10, while Compartmentalization correlated .93 with the previously used total score. Thus only the CD and CC scores appear to be needed to capture the useful dimensions of this instrument. High scores on the Conceptual Differentiation dimension mean the subjects have used several two-item-or-more categories and are thus stressing differences among objects. Therefore their equivalence ranges are narrower than those of subjects scoring low on this dimension. A high score on Conceptual Compartmentalization represents some kind of extreme emphasis on differences and thus suggests a low equivalence range.

Internal-External Control. The I-E scale consists of twenty-nine pairs of matched statements between which the subject is asked to choose. Only twenty-two of the items are scored, the rest being fillers. For this study the scale was scored so that a higher score represented more belief in the person's Internal Control of his reinforcements; the lower scores thus indicated belief in External Control.

Dogmatism. Rokeach's forty item Dogmatism scale, Form E, was used in this study to measure the relative openness and closedness of the person's cognitive system. The subject has six ways to respond to each item, ranging from +3, "I agree very much," to -3, "I disagree very much." Because the total scores in this study included negative numbers down to -80, they were converted by adding +80 to each of them. High scores on this variable represented a more closed system, or more Dogmatism, while low scores represented more openness of the cognitive system.

Specialization Level. This standard scale of the SVIB was included as one of the predictor variables of profile height in an effort to gain more understanding of its relationship to profile height and to the other cognitive variables. The score reported is a standard score (with the mean at 50), with the higher scores representing interest in specializing and the lower scores, interest in being a generalist.

Moderator Instruments

At the conclusion of their rather thorough study of risk taking, Kogan and Wallach stated that "consideration of potential moderator variables is nothing less than essential in psychological research involving the study of correlations" (1964, p. 188). Their reason for this strong statement was that in most of their work "the assumption of linearity that has typically been made in previous studies of the overall relationship between two psychological variables simply does not hold" (ibid.). The use of moderator variables was first suggested by Saunders (1956) and was further promoted by Ghiselli (1960a, 1960b, 1963). Wallach (1962) warned against the dangers of working with only one variable at a time or even of trying to generalize one construct as broadly as Witkin and Faterson were attempting with their global-analytic dimension. He noted that some were trying to say that leveling-sharpening was a variant of analytical-global, but contradictory studies had also been found to this proposition. In fact, the personality area has included many contradictory studies, an effect that Wallach felt was partially due to uncontrolled moderating effects. That is, the contradictions may have been due to the differing positions of the samples upon various moderator variables.

As Wallach (1962) pointed out, a moderator variable represents a dimension along which a sample may be divided into smaller, more homogeneous groups within which relationships between other variables may be revealed more strongly. In fact, the moderator-variable groupings may reveal strong correlations within subgroups where, when the sample as a whole is considered, only weak correlations turn up by the usual methods. Thus Kogan and Wallach (1967) reported that in their 1964 study they would have found little consistency in a person's preferred level of risk from one task to the next if it were not for their segregating their subjects into four groups along the dimensions of test anxiety (fearfulness) and social desirability (defensiveness). Those who were high in both fearfulness and defensiveness were very consistent in their preferred level of risk, whereas those low in both were more free to vary their level of risk according to the different demands of each situation. The latter subjects were found to be, in fact, most adaptive of the four groups. Without the use of moderator variables this study would possibly have been another correlational failure.

Conservatism-Riskiness. As was suggested in the first chapter, some amount of risk seems to be involved in taking the Strong, and a convenient instrument for assessing risk-taking is Kogan and Wallach's (1964) Choice Dilemmas Procedure. They have recently reported that, based on a wide variety of studies, they have "much confidence" in the validity of this procedure for assaying this dimension (Wallach & Kogan, 1965, p. 8). It was not apparent that this dimension would have any direct effect upon the overall intensity of interests on the SVIB, but it seemed conceivable that this variable could moderate the effects of other variables upon the SVIB. That is, it seemed possible that a highly risky person with a low profile could have his low profile as a result of different cognitive features from those of a highly conservative person with a low profile.

The Choice Dilemmas Procedure consists of twelve different problematic situations in which a person is faced with two alternative courses of action, one of which is more attractive than the other but which is also less likely to be attained than the other. The subject is asked to indicate the minimum odds of success he would demand before recommending that the more attractive or desirable alternative be chosen. The items are scored such that a high score indicates the person would demand high odds of success before recommending the attractive alternative and would thus be Conservative, or non-risk-taking. Low scores characterize a person willing to take chances, or to be Risky.

Test Anxiety. Kogan and Wallach (1964) found that a useful moderator variable was that supplied by Alpert and Haber's (1960) Test Anxiety Scale. The former have done a great deal of work with this variable, and they are satisfied that the test-anxious person generally views his environment in terms of its possible implications for his failure or success (Wallach & Kogan, 1965). This person is "rendered especially sensitive to whatever payoff characteristics could be construed as relevant to any decision situation" (p. 209). Further, Burnstein (1963) found, in a study of the relationships between test anxiety and occupational aspirations, that fear of failure contributed to a willingness to settle for less prestigious occupations. Thus, if fear of failure leads to a pattern of interests characteristic of the less prestigious, non-professional occupations which are not on the SVIB, then it is also possible that fear of failure may contribute directly to a low profile.

The scale consists of nineteen items, divided so that approximately half of the items ask how much anxiety hinders test-taking and half of the items ask how much anxiety benefits the test-taker. The scale was scored so that high scores represented Test Anxiety, or fear of failure, while low scores represented unconcern or confidence.

Social Desirability. The second moderator variable used by Kogan and Wallach (1964) was that supplied by Crowne and Marlowe's (1960) Social Desirability scale. This scale was designed to replace Edward's SD scale, which Marlowe and Crowne felt was too dependent upon items concerned with pathology. Christie and Lindauer (1963) in their annual review agreed that the Crowne and Marlowe SD scale had successfully replaced Edward's. At first the scale was interpreted as measuring the person's need for approval, but Crowne and Marlowe (1964) began to change their interpretation of their scale, and studies since then have presented data that a defensiveness interpretation is more appropriate than the need-for-approval concept. Thus, the scale seems to be getting at a denying or repressing mode of behavior (Jacobson & Ford, 1966) or a repressive ego-defensiveness (Breger, 1966). It seemed probable that performance on the SVIB would vary considerably according to the person's defensiveness, but how this would actually affect the other variables' relationships to the SVIB was difficult to predict.

The scale consists of thirty-three items to which the subject is asked to respond True or False, that is, whether the items describe him accurately or not. A high score on this scale means the person is trying to make his actions appear Socially Desirable; he is defensive. A low score represents a kind of openness.

Occupational Level. Strong (1943) speculated that two contradictory ways might exist in which a person could get a low level profile: one is through not being interested in any kind of professional occupation and the other is through having such a wide variety of interests in upper level careers that no area is strong enough to produce a peak on the SVIB. The non-occupational scale OL (Occupational Level) of the SVIB measures the amount of general interest the individual has in the careers of the upper socio-economic classes. It seemed likely that dividing subjects along this variable would allow the other variables to show a relationship with profile height which would otherwise perhaps be cancelled out.

Criterion Measures

As was mentioned, since a variety of studies had failed using the primary pattern concept to define criterion groups, it seemed appropriate to change to using criterion variables and to investigate several different ways of quantifying the criterion of profile height. The method of evaluating different measures of the criterion will be discussed later, but it is based upon Hotelling's (1936) canonical correlation technique. The criterion variables were as follows:

(1) Primary-Secondary Pattern Score. The traditional way of describing the interest intensity of different SVIB profiles is by means of the classification system of primary and secondary occupational interest families, as discussed above. It was proposed to generate a variable by counting the number of primary and secondary occupational families in each profile (using the classification rules of Korn and Parker, 1962), multiplying the number of primary patterns by two, and summing the thusly weighted number of primary patterns and the number of secondary patterns. It was felt that this weighted total would reflect the relative importance of the two patterns in counseling. In order to accomplish this, Korn and Parker's procedures had to be altered slightly because of the addition of three new occupational scales and the shifting of others within the occupational families in the new revision of the SVIB. In the pre-1966 Strong, four of the occupational families contained only one occupation each, and the traditional way of classifying primary and secondary families was done by collapsing these four single-occupation families into those other, larger families with which they correlated most highly. The 1966 revision contains only two such single-occupation families, VII, CPA Owner, and XI, President, Manufacturing Concern. For this study, XI was combined with Group IX, Sales, and VII was combined with Group X, Verbal-Linguistic, giving a total number of nine occupational families to be classified. The

weighted sums of these classifications was called the Primary-Secondary Pattern Score (PSPS).

(2) Letter Range Score. A way of including more of the variance of the profiles in a criterion measure is to attend to the individual occupational scales instead of the occupational families. The scores on forty-eight different occupations are reported in two different ways. A standard score is given for each scale which represents how much the subject's way of responding to the test matched the answers given by selected groups of occupationally successful men. These standard-score scales are also divided into ranges of scores headed by letters of the alphabet. Thus, an A score on an occupational scale represents a standard score of 45 or higher, indicating a high level of concordance between the subject's preferences and those of men in that occupation. The B+ range includes standard scores of 40-44, B, 35-39, etc., down to the C range which includes any standard score of 24 or less. It was proposed to generate another criterion variable by arbitrarily assigning five points for each A score on a profile, four for each B+, three for B's, two for each B-, and one for each C+. These forty-eight different scores on each profile were summed, and the total was called Letter Range Score (LRS).

(3) Total Standard Score. A third possible criterion variable, and a way of including all the variance in the SVIB profile, was to be obtained by simply adding together all of the individual standard scores on each scale. It seemed possible that this total variance would be necessary to understand the contribution of cognitive variables to the strength of the profiles. This variable was called Total Standard Score (TSS).

(4) Rejection Pattern Score. The final criterion variable, which was included for investigatory reasons, was the total number of reject patterns per profile. Apparently little has been done with this as a variable, and no hypotheses were generated to predict relations between it and the predictor variables. As noted earlier, three different rules have been proposed for judging reject patterns, and Korn and Parker's (1962) rules were the strictest of the three. Because their rules were so strict as to turn up reject patterns in only 22 percent of their profiles, this rule was rejected in favor of Stephenson's (1961) rule. A reject pattern was thus ascribed to an occupational family when a majority of the occupations in a particular family were in the C range (at a standard score of 24 or less). The total number of reject patterns per profile was called the Rejection Pattern Score (RPS).

Hypothesized Correlations

It may be helpful at this point, with the variables having been defined quantatively, to restate the hypotheses in terms of the correlations which were expected in the study. These restated hypotheses were:

(1) Field Independence correlates positively with Primary-Secondary Pattern Score (PSPS), Letter Range Score (LRS), and Total Standard Score (TSS).

(2) Complexity of Verbal Apparatus correlates positively with PSPS, LRS, and TSS.

(3a) Category Width correlates negatively with PSPS, LRS, and TSS.

(3b) Verbal Equivalence Range correlates negatively with PSPS, LRS, and TSS.

(3c) Conceptual Differentiation correlates positively with PSPS, LRS, and TSS.

(3d) Conceptual Compartmentalization correlates positively with PSPS, LRS, and TSS.

(4) Internal Control correlates positively with PSPS, LRS, and TSS.

(5) Dogmatism is confounded by Occupational Level and is not significantly correlated with PSPS, LRS, and TSS, except within moderator subgroups defined by the Occupational Level variable.

Subjects and Procedure

The subjects used in this study were male undergraduate university students, approximately half of whom were enrolled in one of two basic psychology courses which required them to take part in experiments for course credit. Because an insufficient number of these students volunteered to take the tests, additional students were recruited through an offer of five dollars to the first 120 male undergraduates who would appear to take the three hours of tests. The total number of subjects came to 252, with 130 being class "volunteers" and 122 being paid volunteers.

The tests were administered to the subjects in the following order:

(1) Embedded Figures Test
(2) Clayton and Jackson's Object Sorting Test
(3) Rokeach's Dogmatism Scale
(4) Choice Dilemmas Procedure.
(5) Marlowe-Crowne Social Desirability Scale
(6) Synonymity Task
(7) Category Width Scale

(8) Rotter's I-E Scale

(9) Complexity-Simplicity Scale (Vannoy's Factor I)

(10) Alpert-Haber Test Anxiety Scale

(11) Strong Vocational Interest Blank For Men.

The Embedded Figures Test was administered first, because it was the only timed test used. After the time on it had elapsed, the subjects were instructed to turn in their copies and the answer sheets. They then began work on the Object Sorting Test and the ones following it. The tests were given in an order which, it was hoped, would provide variety and thus maintain interest. Before the testing began all subjects were informed that a session would be scheduled later at which they would be informed of the test results and also receive their own personal vocational interest profile.

The necessity of using paid volunteers to fill out the subject-total unfortunately led to some variation in the test-taking procedure. The psychology class volunteers took their tests on two different nights, the first night being given to the first ten tests and the second night, to the SVIB. The paid volunteers took all of the tests the same evening. Because this difference in procedure could have caused the paid students to take the SVIB with more "test fatigue" than the class volunteers had, it was considered important to test any possible differences between these two groups on the four criterion variables gained from the SVIB.

The data in Table 1 show that the paid subjects as a group had significantly fewer primary-secondary patterns and fewer rejection patterns than the non-paid subjects. Though with 250 degrees of freedom these differences are statistically different, they do not appear to be meaningfully large. Nevertheless, because of these differences it was

TABLE 1

MEANS AND STANDARD DEVIATIONS OF THE PAID AND NON-PAID GROUPS ON THE FOUR SVIB CRITERION VARIABLES

Criterion Variables	Groups	Mean	Standard Deviation	t
Primary-Secondary Pattern Score	Paid	3.11	1.84	
	Non-Paid	3.64	1.87	2.23*
Letter Range Score	Paid	65.89	12.54	
	Non-Paid	66.57	11.32	0.45
Total Standard Score	Paid	320.05	63.62	
	Non-Paid	314.30	54.31	0.77
Rejection Pattern Score	Paid	2.87	1.09	
	Non-Paid	3.23	.99	2.75**

*$p < .05$
**$p < .01$

considered appropriate to make some further checks, which will be discussed in the Analysis section which follows.

The question of the motivation of the paid students to take care in answering the SVIB may possibly be answered by examining the relative percentages of those students who showed up at the later-scheduled interpretation sessions. Fifty-two percent of the 252 students received their copies of the SVIB profiles, with 70 percent of the paid students and only 36 percent of the non-paid students showing this interest. These deviations from the expected percentages were significant in a chi-square test beyond the .001 level, suggesting that the paid students were much more interested in receiving the SVIB results than were the non-paid students. Thus it is probable that the motivation of the paid students while taking the SVIB was at least as high or higher than the motivation of the non-paid students.

The type of subjects used in this study differed from the type used in several similar studies. Most other studies have used freshmen, who received the SVIB as part of an orientation battery, or counselees in a counseling center. It seemed appropriate, then, to make some comparisons of the performance of the total subject pool in this study with some normative data from other studies.

These comparisons are presented in Tables 2 and 3. The Minnesota figures in the tables are from a study of 1000 freshmen conducted in the early 1940's by Darley using the 1938 revision of the Strong (Darley & Hagenah, 1955), while the Stanford figures were obtained, also using the 1938 revision, from 853 freshmen entering Stanford in 1959 (Korn & Parker, 1962). Table 2 shows that the occurrence of different interest patterns within the Florida sample was similar to the percentages in the

TABLE 2

PERCENTAGES OF OCCURRENCE OF DIFFERENT INTEREST PATTERNS IN THREE DIFFERENT SAMPLES

Pattern Type	Minnesota*	Stanford**	Florida
No Primary	19.3	41	26.6
Single Primary	41.0	37	40.9
Double Primary	30.3	18	22.6
Triple Primary	8.8	3	9.1
Quadruple Primary	.6	--	.8
No Secondary	26.0	28	30.2
Single Secondary	42.9	44	42.5
Double Secondary	23.4	21	19.8
Triple Secondary	4.2	6	6.7
Quadruple Secondary	.3	1	.8
No Primary or Secondary	2.2	7	7.1

*From Darley & Hagenah, 1955, pp. 86-87, 90.
**From Korn & Parker, 1962.

Minnesota and Stanford groups. Thus it seemed probable that the variations of profile height in the present sample are representative of the general student population. And it would seem that the 1966 revision of the SVIB produces patterns similar to the ones produced by the 1938 revision.

Table 3 indicates some differences in the occurrence of primary and secondary patterns within the different occupational families among these three samples. However, it is difficult to make rigorous comparisons here, since, as was already pointed out, the 1966 revision of the Strong allows for the inclusion of two more occupational families than did the 1938 revision, and further, some of the occupations have been moved to different families in the new revision. With all this, the present Florida sample seemed very similar to the Stanford and Minnesota samples in the areas of Biological Science, Physical Science, and Social

TABLE 3

PERCENTAGES OF OCCURRENCE OF PRIMARY AND SECONDARY INTEREST PATTERNS WITHIN THE DIFFERENT OCCUPATIONAL FAMILIES IN THREE DIFFERENT SAMPLES

Occupational Family	Primary Patterns			Secondary Patterns		
	Minn.*	Stan.**	Fla.	Minn.	Stan.	Fla.
Biological Science	9.5	17	20.6	11.8	18	13.5
Physical Science	15.5	10	15.1	12.7	8	9.1
Technical Supervision	--	--	13.5	--	--	13.1
Technical-Skilled	32.6	10	2.4	18.8	16	6.7
Social Service	11.8	12	11.1	13.3	14	13.9
Aesthetic-Cultural	--	--	16.7	--	--	16.3
Business-Accounting	24.9	9	6.0	17.8	19	9.1
Sales	22.1	16	12.7	16.6	14	9.1
Verbal-Linguistic	12.8	10	18.7	12.8	15	14.7

*Minnesota data from Darley & Hagenah, 1955, p. 98.
**Stanford data from Korn & Parker, 1962.

Service occupations. Interests in Technical and Business areas were lower in the Florida sample while there seemed to be a slight increase in interests in the Verbal-Linguistic occupations. All in all, the Florida sample does not appear to be unrepresentative of students at large.

Research Design and Analysis

The scoring of the ten objective scales followed the usual procedure outlined by the various authors of the tests, except where noted differently above. The SVIB was scored by the National Computer Systems, Inc., of Minneapolis, following their usual procedure. The scores supplied by this company included those of the forty-five occupational scales and four non-occupational scales (as well as ten experimental occupational scales not used in this study). On each of these supplied profile sheets the four SVIB criterion variables were then scored by the investigator.

Once all the data were collected, the subject-scores were randomly divided into two samples, the initial sample and the cross-validation sample. In imitation of the designs of Ghiselli (1960b) and Noonan (1967), the initial sample included 150 subjects, while the remainder, 102 subjects, composed the cross-validation sample. This unequal division of subjects was due to the different purposes of the two samples. The initial sample was used not only to test the initial hypotheses but also, in a sense, to generate more exact hypotheses, which were then cross-validated on the second sample. The larger number of subjects in the initial sample gave the greater statistical power to the sample which was used to discover hypotheses, leaving what was considered to be a minimum but adequate number in the cross-validation sample. The experimental design called for the division of each of these samples approximately into thirds, and the resulting subgroups in the initial sample of about 50 subjects each and in the cross-validation sample of about 34 subjects each seemed to provide a reasonable compromise between the needs of stability and the needs of power (Cohen, 1962).

Because of the finding that the paid and non-paid subjects differed on two of the criterion variables, the distribution of these two kinds of subjects between the two samples was checked. Of the 150 subjects in the initial sample, 74, or 49 percent, were paid subjects; in the cross-validation sample, 48 out of 102 subjects were paid, or 47 percent. Neither of these percentages is significantly different from the 48 percent of paid students in the total sample. Thus it seemed reasonable that any differences between the paid and non-paid subjects were equally distributed between the initial and the cross-validation samples. Differences between the two samples could not be attributed to the two ways the subjects were recruited and treated.

Initial Sample Analysis

Canonical Correlation. The first step in the analysis of the initial sample was to carry out Hotelling's (1936) canonical correlation between the first seven predictor variables (those for which there were directional hypotheses) and the four criterion variables. The actual procedure used was that of Cooley and Lohnes (1962), who described it as a way of maximizing the correlation between linear functions of two sets of variables. Using two sets of simultaneous equations involving the predictor and criterion variables, this procedure determines a set of weights for the two sets of variables which will maximize the correlation between the derived canonical variates. A chi-square test is available to determine if the linear combinations significantly relate the two sets of variables. Since there are as many linear combinations possible as there are variables in the smallest set (whether criterion or predictor set), it is possible to have more than one significant relationship defined by the equations. Included in the computerized procedure of Cooley and Lohnes (1962) is the chi-square testing of the significance of each of these independent linear combinations. Further, the weights used to maximize the correlations between the canonical variates can also be used to help in judging which of the criterion measures is the more important measure in relation to the predictor variables.

Intercorrelation Matrix. The second step in the analysis of the initial sample was to calculate product moment correlations between all seventeen of the variables. From the resulting intercorrelation matrix the initial hypotheses were tested. This matrix was also examined for significant relationships not hypothesized for this study.

Moderator Variable Analysis. The third step in the analysis of the initial sample was to test the moderating effects (Saunders, 1956) of each of the predictor and moderator variables upon the relationships between the remaining variables and the criterion variables. The testing of the moderating effects of a particular variable was accomplished by first ranking all the subjects upon the variable and then deciding upon cutting scores which would divide the sample approximately into thirds. These decisions for the cutting scores in the variables in the initial sample were made with the distributions of the scores in the cross-validation sample in mind, so that the use of the same cutting scores in both samples would produce the best possible equal subgroups in both samples. Because the distributions of scores within the two samples varied considerably on some variables, some of the subgroups deviated quite a bit from the hoped-for equal third divisions. In the initial sample, where the goal was 50 subjects in each subgroup, the number of subjects actually in each subgroup ranged from 33 to 63. The corresponding range in the cross-validation analyses was 21 to 42, with the ideal size being 34. (The cutting scores on each of the twelve variables used in the moderator analyses of the samples, as well as the consequent subgroup sizes, are given in Table 16 in Appendix A.) These differences arose because it was judged to be more meaningful to use the same cutting scores in the samples rather than to use equal subgroup sizes. Since cutting scores hopefully categorize subjects meaningfully, the above procedure should provide more transference to future research.

These approximately equal third divisions were made within the scores of twelve of the criterion and moderator variables (Specialization Level was not investigated as a moderator variable), resulting in 36 different (though not independent) subgroups (the subjects were sorted into three groups twelve different ways). Within each of these 36 groups, product moment correlations were run between twelve variables and the four criterion variables, which produced, then, 1728 different correlations within the initial sample. For example, 41 subjects made up the High subgroup on the variable Field Independence. The scores of these 41 subjects on the remaining twelve variables (Specialization Level was included in these correlations) were each correlated with each of the four SVIB criterion variables, resulting in 48 different correlations.

As will be noted in the next chapter, a way to group the results in a fashion more meaningful than had to be used to calculate these correlations is to sort the correlations by variable, rather than by subgroup. For example, the correlations of Field Independence with each of the four criterion variables were extracted from each of the computer subgroup tables and placed in a table by themselves (with the appropriate identification of their subgroup source).

After these arrangements were made, the 1728 different correlations in this initial sample moderator analysis were examined for statistical significance. Because any significant relationships found were used as hypotheses to be re-examined in the cross-validation sample, and because of Cohen's (1962) warning that typically this kind of research does not use enough power in its statistical tests, the decision was made to use the .10 level of significance in the t-test of the correlations in this initial-sample moderator analysis. Changing the significance level from .05 to .10 raises the power of the t-test to detect correlations which are in reality different from zero but which may, in any given sample, be low because of sample error. The significance level was returned to .05 for the cross-validation moderator analysis.

Cross-Validation Sample Analysis

Using the hypotheses gained from the initial-sample analysis, moderator analyses were run on the 102 subjects making up the cross-validation sample. Though it was necessary for efficiency reasons to imitate in entirety the analysis run on the initial sample, only the correlations actually involved in the hypotheses are being reported, since the purpose of the cross-validation sample was not to look for new significant relationships but only to test those previously discovered. However, an intercorrelation matrix involving all the variables was produced, just as in the initial sample, and the canonical correlation analysis was again run on this sample, in order to give an indication of the stability of the findings in these areas.

Because the canonical correlation analysis involves matrix-inversion calculations and because 3728 correlations were necessary in the other analyses, the facilities of the University of Florida Computing Center were used.

CHAPTER III

RESULTS

In this chapter the results of the canonical correlation analyses of the initial and cross-validation samples will be presented first, followed by the correlation matrices of these two samples. These correlation matrices provided the test for the initial hypotheses. Following this will be the summarized results of the moderator analyses, which includes only those relationships found to be significant in the initial sample and also supported by the cross-validation sample.

Canonical Correlation Analyses

As was mentioned in the last chapter, canonical correlation analysis using the Cooley and Lohnes (1962) procedure was performed between seven predictor and four criterion variables of the initial and cross-validation samples. With seven predictor and four criterion variables there are four independent ways of relating these variables, and thus the analysis produces four different canonical correlations. These correlations of the initial sample are presented in Table 4.

As can be noted from the table, the maximum canonical correlation of the initial sample was .33, but the chi-square analysis revealed this was not a statistically significant relationship. That is, the seven variables of Field Independence, Complexity of Verbal Apparatus, Category Width, Verbal Equivalence Range, Conceptual Differentiation, Conceptual Compartmentalization, and Internal Control, when taken as a

TABLE 4

INITIAL-SAMPLE CANONICAL CORRELATIONS WITH ASSOCIATED CHI SQUARES

Number of Roots Removed	Largest Latent Root Remaining	Corresponding Canonical R	Chi Square	Degrees of Freedom
0	.111	.33	29.04	28
1	.048	.22	12.03	18
2	.023	.15	4.99	10
3	.011	.10	1.58	4

group, were not significantly related in the initial sample to the four criterion variables, taken as a group.

Despite this lack of significance, it was still considered appropriate to examine the canonical coefficients which produced the largest canonical correlation (cf. Stewart & Love, 1968). These are displayed in Table 5. The coefficients suggest that the predictor variable most related to the criterion variables was Complexity of Verbal Apparatus,

TABLE 5

CANONICAL COEFFICIENTS
OF THE FIRST CANONICAL CORRELATION OF THE INITIAL SAMPLE

Predictors		Criteria	
.567	Complexity of Verbal Apparatus	.688	Letter Range Score
-.249	Field Independence	.567	Rejection Pattern Score
.169	Internal Control	-.410	Total Standard Score
-.144	Conceptual Compartmentalization	-.192	Primary-Secondary Pattern Score
.081	Verbal Equivalence Range		
.072	Conceptual Differentiation		
.022	Category Width		

while the criterion variable which was most importantly related to the predictor variables was Letter Range Score. That variable which reflects the most popular criteria, primary and secondary patterns, was least related to the predictor variables in this largest root of the initial sample canonical analysis.

The cross-validation sample canonical analysis produced similar results. Table 6 presents the four canonical correlations, and again the largest correlation was not significant.

TABLE 6

CROSS-VALIDATION-SAMPLE CANONICAL CORRELATIONS WITH ASSOCIATED CHI SQUARES

Number of Roots Removed	Largest Latent Root Remaining	Corresponding Canonical R	Chi Square	Degrees of Freedom
0	.118	.34	29.05	28
1	.093	.31	16.96	18
2	.047	.22	7.54	10
3	.030	.17	2.95	4

Again it was decided to note the canonical coefficients of the variables which had enabled their variates to be related with a correlation of .34, the largest canonical correlation. Table 7 shows that in the cross-validation sample there were two predictor variables, Field Independence and Internal Control, of similar importance in relating to the criterion variables as a group. Letter Range Score continued to be the most important criterion variable in this first correlation of the cross-validation canonical analysis, with Primary-Secondary Pattern Score close behind it. (The coefficients for the remaining three correlations in each sample are located in Tables 47-52 in Appendix E.)

TABLE 7

CANONICAL COEFFICIENTS OF THE FIRST CANONICAL CORRELATION OF THE CROSS-VALIDATION SAMPLE

Predictors		Criteria	
-.298	Field Independence	.624	Letter Range Score
.272	Internal Control	-.594	Primary-Secondary Pattern Score
.178	Complexity of Verbal Apparatus	.487	Rejection Pattern Score
-.043	Conceptual Compartmentalization	.142	Total Standard Score
-.041	Conceptual Differentiation		
.015	Category Width		
.012	Verbal Equivalence Range		

Thus the canonical correlation analyses of the two samples agreed that no predictor and criteria linear equations could be found in this data which would significantly relate the two sets of variables. That is, taken as a whole, the various measures of cognitive differentiation were related to the various criterion measures significantly in neither of the two samples. However, the coefficients of the variables as they were used in the largest correlations of the two samples did reveal some agreement between the two samples. That is, in both samples Complexity of Verbal Apparatus, Field Independence, and Internal Control were the three most important predictor variables in relating to the criterion variables, while Category Width was the least important between the two samples. In both samples, the most important criterion variable was Letter Range Score, with Total Standard Score being least related to the predictors between the two samples. Primary-Secondary Pattern Score was least important in the initial sample, but it moved to being very close to the first in importance in the cross-validation sample. Thus the functioning of the criterion variables in the two samples was somewhat varied.

Intercorrelation Analyses

The seventeen-variable correlation matrix of the initial sample (Table 8) revealed that when the variables were individually related to one another (instead of being related through groups, as in the canonical analyses) only Complexity of Verbal Apparatus, among the eight predictor variables, was significantly correlated with any of the criterion variables. This variable had a low positive correlation ($p < .05$) with Primary-Secondary Pattern Score. Thus in the initial sample Hypothesis 2 found some weak support, while Hypotheses 1, 3a, 3b, 3c, and 4 failed in this sample. Hypothesis 5 was not contradicted, in that Dogmatism was not correlated with any of the criterion variables, but its evaluation must be reserved for the moderator analysis which is to follow. In the initial sample, then, only that hypothesis received support which suggested that the more verbally complex a person is, the more capable he is of differentiating his responses to the SVIB and of therefore differentiating himself enough from men-in-general that he will have more primary and secondary patterns.

The cross-validation sample correlation matrix (Table 9) revealed that only one predictor variable was significantly related to a criterion variable in the cross-validation data. Field Independence had a low negative correlation ($p < .05$) with Letter Range Score, an effect that was in the direction opposite to that hypothesized. That is, in the cross-validation sample the more field independent, or articulated, or differentiated men tended to have lower SVIB profiles, rather than higher profiles as predicted. There were no other significant relationships between predictor and criterion variables in this sample.

Besides these two significant relationships between predictor and

TABLE 8

INTERCORRELATIONS OF THE SEVENTEEN VARIABLES IN THE INITIAL SAMPLE (N = 150)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2	.16*															
3	.27**	.16*														
4	.04	.14	-.07													
5	-.07	-.12	.10	-.12												
6	-.03	-.07	-.01	-.13	.19*											
7	-.07	.07	.05	.11	.10	-.01										
8	-.05	-.38**	-.07	.02	.15	.12	-.06									
9	-.10	-.40**	-.17*	-.01	-.03	.06	-.27**	.19*								
10	.08	-.04	-.01	.01	-.04	.10	-.09	-.06	.04							
11	.00	-.07	.00	.08	.02	.03	.02	.15	-.15	-.09						
12	.13	.14	.26**	-.11	.00	-.04	.29**	-.07	-.25**	-.07	-.18					
13	.08	.42**	.05	-.01	-.03	.07	.11	-.13	-.15	-.07	-.13	.26**				
14	.05	.16*	.03	.03	-.05	-.08	.02	.00	-.05	.06	-.05	.18*	.07			
15	.01	.09	-.05	-.06	-.05	-.05	.00	.04	.00	.17*	.00	.20*	-.11	.71**		
16	.07	-.05	-.06	-.11	-.11	-.02	.00	.05	.02	.13	.12	.09	-.22**	.36**	.75**	
17	-.04	.23**	.07	.10	-.03	-.09	.14	-.13	-.25**	-.05	-.11	.09	.28**	.23**	-.18*	-.40**

*p< .05 **p< .01

1 Field Independence
2 Complexity of Verbal Apparatus
3 Category Width
4 Verbal Equivalence Range
5 Conceptual Differentiation
6 Conceptual Compartmentalization
7 Internal Control
8 Dogmatism
9 Conservatism-Riskiness
10 Test Anxiety
11 Social Desirability
12 Occupational Level
13 Specialization Level
14 Primary-Secondary Pattern Score
15 Letter Range Score
16 Total Standard Score
17 Rejection Pattern Score

TABLE 9

INTERCORRELATIONS OF THE SEVENTEEN VARIABLES IN THE CROSS-VALIDATION SAMPLE (N = 102)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2	.06															
3	.10	.30**														
4	-.16	.17	-.06													
5	.01	.03	-.05	-.07												
6	.10	.07	-.02	-.06	.23*											
7	-.14	-.06	.17	.03	-.10	-.07										
8	.05	-.38**	-.19	-.03	.11	-.01	-.13									
9	.16	-.25*	.11	-.03	.00	-.03	-.01	.04								
10	.11	-.20*	.02	-.13	.08	.03	-.18	.24*	.10							
11	.12	-.09	.05	.09	.05	.00	-.02	.24*	.11	.06						
12	-.11	.20*	.18	-.14	-.03	.08	.23*	-.18	-.27**	-.24*	-.04					
13	-.15	.39**	.19	.19	-.08	-.01	.24*	-.25*	.04	-.05	.05	.34**				
14	-.11	.10	-.13	-.01	.05	.04	-.08	-.01	-.21*	.05	-.08	.12	-.09			
15	-.21*	.07	-.12	.04	-.03	.07	-.01	-.04	-.26**	.03	-.13	.17	-.14	.78**		
16	-.09	.01	-.10	.12	-.12	-.05	.06	.03	-.07	-.03	-.03	.18	-.03	.43**	.68**	
17	-.07	.14	.09	-.02	.08	-.09	.12	-.19	-.06	.03	-.04	.03	.16	.23*	-.12	-.32**

$^*p < .05$ $^{**}p < .01$

1 Field Independence
2 Complexity of Verbal Apparatus
3 Category Width
4 Verbal Equivalence Range
5 Conceptual Differentiation
6 Conceptual Compartmentalization
7 Internal Control
8 Dogmatism
9 Conservatism-Riskiness
10 Test Anxiety
11 Social Desirability
12 Occupational Level
13 Specialization Level
14 Primary-Secondary Pattern Score
15 Letter Range Score
16 Total Standard Score
17 Rejection Pattern Score

TABLE 10

CORRELATIONS FOUND TO BE SIGNIFICANT IN THE INITIAL-SAMPLE CORRELATION MATRIX COMPARED WITH THE CORRESPONDING CORRELATIONS IN THE CROSS-VALIDATION-SAMPLE CORRELATION MATRIX

Relationships	Initial Sample	Cross-Validation Sample
Field Independence and Complexity of Verbal Apparatus	.16*	.06
Field Independence and Category Width	.27**	.10
Complexity of Verbal Apparatus and Category Width	.16*	.30**
Complexity of Verbal Apparatus and Dogmatism	-.38**	-.38**
Complexity of Verbal Apparatus and Conservatism-Riskiness	-.40**	-.25*
Complexity of Verbal Apparatus and Specialization Level	.42**	.39**
Complexity of Verbal Apparatus and Primary-Secondary Pattern Score	.16*	.10
Complexity of Verbal Apparatus and Rejection Pattern Score	.23*	.14
Category Width and Conservatism-Riskiness	-.17*	.11
Category Width and Occupational Level	.26**	.18
Conceptual Differentiation and Conceptual Compartmentalization	.19*	.23*
Internal Control and Conservatism-Riskiness	-.27**	-.01
Internal Control and Occupational Level	.29**	.23*
Dogmatism and Conservatism-Riskiness	.19*	.04
Conservatism-Riskiness and Occupational Level	-.25**	-.27**
Conservatism-Riskiness and Rejection Pattern Score	-.25**	-.06
Test Anxiety and Letter Range Score	.17*	.03
Social Desirability and Occupational Level	-.18*	-.04
Occupational Level and Specialization Level	.26**	.34**
Occupational Level and Primary-Secondary Pattern Score	.18*	.12

TABLE 10 (continued)

Relationships	Initial Sample	Cross-Validation Sample
Occupational Level and Letter Range Score	.20*	.17
Specialization Level and Total Standard Score	-.22**	-.03
Specialization Level and Rejection Pattern Score	.28**	.16
Primary-Secondary Pattern Score and Letter Range Score	.71**	.78**
Primary-Secondary Pattern Score and Total Standard Score	.36**	.43**
Primary-Secondary Pattern Score and Rejection Pattern Score	.23**	.23*
Letter Range Score and Total Standard Score	.75**	.68**
Letter Range Score and Rejection Pattern Score	-.18*	-.12
Total Standard Score and Rejection Pattern Score	-.40**	-.32**

*$p < .05$
**$p < .01$

criterion variables, there were a number of other significant relationships among the predictor, moderator, and criterion variables. In order to display the stability of these relationships, Table 10 was prepared from the two intercorrelation matrices. This table lists all those significant relationships in the initial sample and shows the corresponding correlations in the cross-validation sample. Of 29 significant relationships in the initial sample, 13 also found significance in the cross-validation sample. These cross-validated findings can be divided into four general groups of relationships: those among the cognitive and moderator variables, those among the criterion variables, those among the SVIB non-occupational scales and criterion variables, and those among the cognitive and moderator variables and non-occupational scales. (None of the relationships among the cognitive variables and criterion variables, the hypothesized relationships, was significant in both samples, though the relationship between Complexity of Verbal Apparatus and Rejection Pattern Score did receive some mild support in the cross-validation sample with a correlation of .14.)

First, among the cognitive variables and those variables added to the study for moderator analysis, it appears that Complexity of Verbal Apparatus was the variable most related to the others in this category. In both samples it was significantly related to Category Width (positive correlation), to Dogmatism (negative correlation), and to Conservatism-Riskiness (negative correlation).

The relationship of Complexity of Verbal Apparatus to Category Width appears to be opposite to what one would predict using a theory of cognitive differentiation. What was found was that the more complex a person's verbal apparatus, the wider quantative categories he tended to use. However it would seem to be more reasonable that a more complex verbal apparatus would call for narrower categories; broad categories would seem to make complexity more difficult. The findings of this study, however, are similar to what Vannoy (1965) found in his factor-analytic study of a wide variety of measures of complexity. Though Vannoy's analysis placed Complexity of Verbal Apparatus and Category Width in two different factors, the factors were not oblique. His intercorrelation matrix also reported a correlation between Category Width and the scale formed from Barron's Independence of Judgment scale (Complexity) of .20. Similarly a correlation of -.20 was found between Intolerance of Ambiguity and Category Width. The Intolerance of

Ambiguity scale was, of course, combined with the Complexity scale in this present study to form a measure of Vannoy's first factor, Complexity of Verbal Apparatus, by simply reversing the scoring of the Intolerance of Ambiguity items and adding them to the Complexity items. The approximate correlation of .20 in Vannoy's study between Complexity of Verbal Apparatus and Category Width is similar to the correlations of .16 and .30 found in this present study.

Complexity of Verbal Apparatus was related also to Dogmatism, such that the more complex persons were less dogmatic than verbally simpler persons. Another way to state it is that persons with a simpler verbal apparatus tended to be more dogmatic, or more closed to new beliefs and information, which seems to be a reasonable relationship. Finally, it was found in the two samples that those people who preferred complexity also tended to recommend more risky behavior than did those who preferred more simplicity; those with a simpler verbal apparatus tended to be conservative.

It should also be noted in this part that the two scores drawn from the Object Sorting Test, Conceptual Differentiation and Conceptual Compartmentalization, had a significant correlation of approximately .20 in the two samples. This compares with a correlation of .10 which Messick and Kogan (1963) found in their study originally defining these two variables.

The second general group of findings in the correlation matrices of the two samples was that almost all of the criterion variables were significantly related to each other. Positive correlations existed between Primary-Secondary Pattern Score and the other three, but only between Letter Range Score and two others and between Rejection Pattern

Score and two others. That is, of all possible comparisons of the criterion variables, only Letter Range Score and Rejection Pattern Score failed to be significantly related in both of the two samples. However, even this relationship, with its correlation of -.12, can be said to have received some mild support in the cross-validation sample.

The two criterion-variable relationships with the highest correlations were those between Primary-Secondary Pattern Score and Letter Range Score and those between Letter Range Score and Total Standard Score. Thus if the variables are ranked as to the amount of variation of the profiles they include, such that Primary-Secondary Pattern Score includes least, Letter Range Score is next, and Total Standard Score includes most, then the highest correlations are between adjacent variables in this ranking. The fact that, when the two extremes of the ranking are correlated, the common variance between criterion variables drops from around 56 percent to around 16 percent indicates that the first three criterion variables are not simply different ways of quantifying the same effect.

The Rejection Pattern Score variable was related to only two of the other criterion variables, Total Standard Score and Primary-Secondary Pattern Score. The relationship between Total Standard Score and Rejection Pattern Score was negative, as would seem appropriate from the make-up of these two variables. Rejection Pattern Score and Primary-Secondary Pattern Score were related with a low positive correlation, which seems similar to the relationship between primary and rejection patterns in Darley and Hagenah's (1955) data, as discussed in Chapter I. Primary patterns and rejection patterns tend to go together, so that the more differentiated a profile is in a positive direction the more differentiated it tends to be in a negative direction. The fact that Rejection Pattern Score correlates positively with Primary-Secondary Pattern Score, negatively with Total Standard Score, and not at all with Letter Range Score again seems to indicate that the latter variables are not just different ways of quantifying the same thing.

The third general area of findings in Table 10 were the relationships between the SVIB non-occupational scales and the criterion variables. Several of these relationships were significant in the initial sample, with almost all of them also being close to significance in the cross-validation sample. These included Occupational Level and Primary-Secondary Pattern Score; Occupational Level and Letter Range Score; and Specialization Level and Rejection Pattern Score. These indicate some tendency for interest in higher socio-economic occupations to be associated with a more differentiated SVIB profile, and a tendency for interest in specialized occupations to be associated with the rejection of more occupations. Furthermore, the two SVIB non-occupational scales used in this study were significantly related in both samples. These correlations are slightly higher than the correlation of .23 between Occupational Level and Specialization Level reported in the current SVIB manual (Strong, 1966). Thus an interest in higher level occupations tends to be associated with interest in specialized occupations.

The final significant relationships in Table 10 were between the non-occupational scales and various of the cognitive and moderator variables. Occupational Level was related to three of these variables, with Specialization Level correlating significantly with just one. The highest correlations in Table 10 are between Specialization Level and Complexity of Verbal Apparatus, indicating a strong tendency for preference for complexity to be associated with interest in an occupation which requires a great deal of specialized knowledge.

Occupational Level was associated with Internal Control, with Conservatism-Riskiness, and to some extent with Category Width. The person who sees himself in control of his own reinforcements also tends to have interests compatible with the interests of men in higher socio-economic occupations, as does the person who is more willing to take risks. The view that there is a lot of luck involved in one's life and also a hesitancy in taking risks seem to be related to being interested in lower socio-economic occupations. Also existent was some tendency for those who use broader quantative categories to be interested in the higher level occupations.

In all of these correlations, the three variables which stood out were Complexity of Verbal Apparatus, Occupational Level, and Specialization Level. It was noted that these variables were also rather strongly interrelated, and there seemed to be some pattern to their relations to the other variables. In order to detect any possible patterns more easily, Table 11 was prepared to display the trends in these relationships as well as those relationships significantly cross-validated.

Table 11 readily shows the tendencies of Complexity of Verbal Apparatus to relate to both Primary-Secondary Pattern Score and Rejection Pattern Score, of Occupational Level to relate to Primary-Secondary Pattern Score and Letter Range Score, and of Specialization Level to relate to Letter Range Score and Rejection Pattern Score. In addition, both Complexity of Verbal Apparatus and Occupational Level were related to Category Width and to Conservatism-Riskiness, both Complexity of Verbal Apparatus and Specialization Level were related to Dogmatism,

TABLE 11

INTERCORRELATIONAL PATTERNS
IN THE INITIAL (IS) AND CROSS-VALIDATION (CVS) SAMPLES

	Occupational Level		Specialization Level		Complexity Of Verbal Apparatus	
	IS	CVS	IS	CVS	IS	CVS
PSPS	.18*	.12	...	...	.16*	.10
LRS	.20*	.17	-.11	-.14	...	...
RPS	...	...	.28**	.16	.23**	.14
OL	...	...	.26**	.34**	.14	.20*
SL	.26**	.34**	...	...	.42**	.39**
CVA	.14	.20*	.42**	.39**	...	...
FI	...	...	...	...	.16*	.06
CW	.26*	.18	...	...	.16*	.30**
VER	-.11	-.14	...	...	.14	.17
IC	.29**	.23*	.11	.24*	...	...
Dog	...	...	-.13	-.25*	-.38**	-.38**
CR	-.25**	-.27**	...	...	-.40**	-.25*
SD	...	...	...	...	-.07	-.09

$^{*}p < .05$
$^{**}p < .01$

and both Occupational Level and Specialization Level tended to be related to Internal Control. In these three patterns, the direction of the relationships did not contradict the positive correlations among Occupational Level, Specialization Level, and Complexity of Verbal Apparatus, although there was a tendency for Occupational Level and Complexity of Verbal Apparatus to relate to Verbal Equivalence Range in such a contradictory fashion. The consistency of the directions of these intercorrelations appears to argue against attributing the significance of the correlations to chance factors.

Another interesting fact about Table 11 is that it contains almost all of the trends between variables in Tables 8 and 9 (except for those among the criterion variables). Only four sets of consistent trend correlations are excluded. These are the correlations of .19 ($p < .05$) and .23 ($p < .05$) between Conceptual Differentiation and Conceptual Compartmentalization (already pointed out above), the correlations of .27 ($p < .01$) and .10 between Category Width and Field Independence, the correlations of .15 and .24 ($p < .05$) between Dogmatism and Social Desirability, and the correlations of -.13 and -.19 between Dogmatism and Rejection Pattern Score (initial and cross-validation sample correlations, respectively).

The correlations here between two cognitive variables--the Category Width-Field Independence correlations--were in the direction consistent with the correlations between these two and Complexity of Verbal Apparatus. Thus Complexity of Verbal Apparatus, Field Independence, and Category Width tended to be positively intercorrelated with each other. Occupational Level almost joins this circle, for it shared in tendencies toward positive correlations with Complexity of Verbal Apparatus and Category Width. The correlations between Dogmatism and Rejection Pattern Score are also consistent with the intercorrelations among Complexity of Verbal Apparatus, Specialization Level, Dogmatism, and Rejection Pattern Score. Thus Complexity of Verbal Apparatus, Specialization Level, and Dogmatism were all consistent in predicting Rejection Pattern Score. If Specialization Level can be thought of as a measure of some kind of cognitive differentiation, then the correlations of Complexity of Verbal Apparatus, Dogmatism, and Specialization Level with Rejection Pattern Score all suggest that the more cognitively differentiated the subject was, the more rejections of occupational families he made.

Other patterns in Table 11 include the intercorrelations of Complexity of Verbal Apparatus, Specialization Level, and Occupational Level, as already mentioned. The more the subjects preferred verbal complexity, the more interested they were in specialized occupations and in higher status occupations. Also, Internal Control tended to be related to the two SVIB non-occupational scales, such that the more the individual saw the reinforcements in his life as being under his control, the more he tended to be interested in specialized and high status occupations. The final group of intercorrelated variables in Table 11 involved Complexity of Verbal Apparatus, Occupational Level, and Conservatism-Riskiness. Here, the more non-risky conservative the individual, the lower were his status interests and the simpler were his preferences in verbal organization.

In general, then, the intercorrelation matrices revealed that three out of the thirteen cognitive and moderator variables accounted for most of the important correlations among the variables. The cognitive variables were poorly related to the criterion variables and to each other, but there were some important correlations between the cognitive variables and the two SVIB non-occupational variables included in this study. Almost all of these intercorrelations were consistent in the directions of their intercorrelations with each other. However, from the viewpoint of cognitive theory the direction of the correlations of Category Width with both Complexity of Verbal Apparatus and Field Independence was opposite to what one might predict, though Field Independence and Complexity of Verbal Apparatus tended to correlate in the expected positive direction. Finally, the variable Social Desirability tended to correlate only with Dogmatism, suggesting that a set to respond in a socially desirable way had very little influence in producing these intercorrelations.

Moderator Analyses

The first step in the moderator analyses of the two samples was to rank the subjects on each of the twelve predictor and moderator variables (Specialization Level was not used as a moderator variable) and then to divide the subjects, on each of these variables, into three approximately equally numbered groups labeled High, Medium, and Low. Within each of these resulting 36 groupings, correlations were run between the remaining twelve predictor and moderator variables (Specialization Level was included in these correlations) and the four criterion variables. Thus even though some variables were primarily of interest for their ability to predict, their ability to moderate other predictor variables was also checked. And similarly those variables included as moderator variables were also checked for their ability to predict. As mentioned, this resulted in 1728 separate correlations in the initial sample to be evaluated.

In order to begin the evaluations of the moderator-analysis results of the initial sample, the correlations were rearranged so that all of the correlations between a particular variable and the four criterion variables were placed in one table. Within a particular table, these correlations were labeled according to the particular moderator subgroup from which they were obtained. Thus, for example, all of the 132 correlations between Field Independence and the four criterion variables were placed in a table, and it was possible to examine the table and note which moderator subgrouping resulted in significant correlations between Field Independence and one of the criterion variables and which did not. (Because of the length of these thirteen tables, they are presented in Appendix B, Tables 17-29.)

After the correlations in the initial-sample moderator analysis were examined for significance (using a significance level of .10, as explained in Chapter II), all of the relationships attaining statistical significance were rearranged in additional tables according to criterion variables (these tables are in Appendix D, Tables 43-46). It was noted from these tables that out of 432 correlations between the variables used as predictors and Primary-Secondary Pattern Score, 44 were significant at at least the .10 level. Of the same number, Letter Range Score was correlated significantly with 56; Total Standard Score, with 58; and Rejection Pattern Score, with 81.

In order to make the comparisons called for by the experimental design, a moderator analysis was obtained on the cross-validation sample, and the results were placed in tables similar to those of the initial-sample analysis (the cross-validation moderator results are in Appendix C, Tables 30-42). Only those correlations corresponding to the significant relationships in the initial sample were noted and placed in the four tables of significant relations arranged according to criterion variables (Tables 43-46, Appendix D). These latter four tables made it possible to see which of the significant initial-sample relationships were cross validated in the cross-validation sample.

These four tables were quite lengthy, and a yet shorter table was distilled from them to display the important results of the moderator analyses. In order to evaluate also the trends in the data (those relationships not quite reaching cross-validation significance), the data selected for display in this new table, Table 12, were chosen by three rules. First, this table includes all those relationships which were significant in the initial sample at the .05 level and which were supported by a correlation of at least .20 in the cross-validation sample. Second, those additional relationships were selected which were significant at the .10 level in the initial sample and which were supported by a correlation of at least .25 in the cross-validation sample. This second requirement was instituted in order to make use of the initial-sample significance level of .10 in a way which would not be excessively "liberal" but which would allow one to notice trends. Third, all of the moderating conditions thus utilized by the first two rules were examined for yet weaker trends between the same predictors and one or more of the other criterion variables. These latter, weak trends were placed in parentheses in Table 12. This last rule allows one to see if a particular predictor-criterion relationship is unique or if there was at least some tendency for the same predictor to be related to one of the other three criterion variables within the same moderating condition. Table 12 thus became the effective starting place for reporting the important moderator analyses results.

The first characteristic of Table 12 which requires some comment is the relative paucity of statistically significant cross-validated correlations: there are only thirteen such correlations. Thus, of the 1728 correlations in the initial-sample moderator analysis which were examined for significance at at least the .10 level, and of the 239 correlations in the initial sample which did achieve this significance level, only thirteen were supported with a significance level of .05 in the cross-validation sample. (It should also be pointed out that

TABLE 12

MODERATED PREDICTOR-CRITERION RELATIONSHIPS CORRELATED SIGNIFICANTLY IN THE INITIAL SAMPLE AND RECEIVING SUPPORT IN THE CROSS-VALIDATION SAMPLE

Variables Used As Predictors	Moderating Conditions	Initial Sample****	Cross-Validation Sample*****	Criterion Variables
Field Independence	High Complexity of Verbal Apparatus	-.25*	-.38**	RPS
	Low Complexity of Verbal Apparatus	-.37** -.32*	-.31 -.25	LRS TSS
Complexity of Verbal Apparatus	Low Field Independence	-.29** .27*	-.29 .55***	TSS RPS
	Medium Verbal Equivalence Range	.23*	.26	RPS
	High Conceptual Differentiation	.31** .24*	.30 .28	PSPS LRS
	High Conceptual Compartmentalization	.24* .35***	.30 .27	PSPS RPS
	High Internal Control	.39*** .31** .25*	.45** .25 .33	PSPS LRS RPS
	Medium Dogmatism	.41***	.40**	RPS

	Low Social Desirability	.44*** (.47*** (.37**	.20 .14 .18	PSPS LRS) RPS)
Category Width	High Test Anxiety	-.27* (-.27* (.27*	-.27 -.18 .22	LRS TSS) RPS)
Verbal Equivalence Range	None			
Conceptual Differentiation	High Test Anxiety	(-.37** -.40*** (-.35**	-.13 -.22 -.14	PSPS) LRS TSS)
Conceptual Compartmentalization	None			
Internal Control	High Verbal Equivalence Range	.25*	.29	RPS
	High Conceptual Compartmentalization	.31**	.21	RPS
	High Test Anxiety	-.26*	-.25	LRS
	Low Test Anxiety	.37***	.23	RPS
Dogmatism	High Internal Control	-.23*	-.33	RPS
	High Test Anxiety	-.27*	-.27	RPS
Conservatism-Riskiness	High Social Desirability	-.30**	-.31**	RPS
	Low Social Desirability	-.33**	-.21	PSPS

TABLE 12 (continued)

Variables Used As Predictors	Moderating Conditions	Initial Sample	Cross-Validation Sample	Criterion Variables
Test Anxiety	None			
Social Desirability	None			
Occupational Level	High Field Independence	.32** .31**	.24 .36**	LRS TSS
	Medium Category Width	.29** (.26*	.35** .15	LRS TSS)
	Low Category Width	.24*	.26	LRS
	Medium Conceptual Differentiation	.22* (.34***	.27 .15	PSPS LRS)
	High Conceptual Compartmentalization	.31** .27** (.23*	.24 .24 .14	PSPS LRS RPS)
	Medium Dognatism	.35**	.35**	LRS
	Medium Conservatism-Riskiness	.37***	.27	LRS
	Medium Test Anxiety	.25*	.26	LRS

Specialization Level	Low Social Desirability	.51*** .37**	.37 .27	LRS TSS
	Low Field Independence	.31**	.43**	RPS
	Medium Complexity of Verbal Apparatus	.29**	.41**	RPS
	Low Complexity of Verbal Apparatus	-.33*	-.36**	LRS
	High Verbal Equivalence Range	.41***	.31**	RPS
	High Conceptual Differentiation	-.27* (.43***	-.29 .18	TSS RPS)
	Medium Conceptual Compartmentalization	-.27* (-.42*** .33**	-.29 -.11 .20	LRS TSS) RPS
	High Internal Control	.41***	.23	RPS
	Low Internal Control	-.28*	-.28	TSS
	High Test Anxiety	-.36**	-.31	LRS
	Medium Social Desirability	.38***	.20	RPS
	High Occupational Level	.27**	.24	RPS

TABLE 12 (continued)

Variables Used As Predictors	Moderating Conditions	Initial Sample	Cross-Validation Sample	Criterion Variables
	Low Occupational Level	-.39**	-.35**	LRS
		(-.38**	-.16	TSS)

*p< .10
**p< .05
***p< .01
****The N in each moderating Condition in the initial sample was approximately 50. The exact N for each condition may be found in Table 16, Appendix A.
*****The N in each moderating condition in the cross-validation sample was approximately 34. The exact N for each condition may be found in Table 16, Appendix A.

PSPS	Primary-Secondary Pattern Score
LRS	Letter Range Score
TSS	Total Standard Score
RPS	Rejection Pattern Score

in Tables 43-45, Appendix D, there were three significant reversals in moving from the initial sample to the cross-validation sample: Category Width and Primary-Secondary Pattern Score, moderated by Medium Verbal Equivalence Range; Conservatism-Riskiness and Letter Range Score, moderated by Medium Dogmatism; and Test Anxiety and Total Standard Score, moderated by High Conservatism-Riskiness.) These thirteen significant cross-validations involved these variables used as predictors: Field Independence, Complexity of Verbal Apparatus, Conservatism-Riskiness, Occupational Level, and Specialization Level. Two of these were cognitive-style variables (Field Independence and Complexity of Verbal Apparatus); one was of the motivational variable type included for moderator analysis but also checked for its ability to predict directly (Conservatism-Riskiness); and the last two were non-occupational SVIB scales, one of which was included for moderator analysis, but both of which were also checked for direct predictability (Occupational Level and Specialization Level). The last two together produced significant relationships in more moderator subgroups than the variables in any other classification. In addition to the predictors related significantly to the criterion variables, four other cognitive-style variables, Category Width, Conceptual Differentiation, Internal Control, and Dogmatism, tended to be related to the criteria also.

Looking at Table 12 from the viewpoint of the criterion variables, one can note that the criteria correlated significantly in the largest number of moderating conditions were Rejection Pattern Score and Letter Range Score, with seven and four significant correlations respectively. Primary-Secondary Pattern Score and Total Standard Score were each correlated significantly in one condition. In addition, the "trend" correlations (but not the correlations in parentheses) break down into fourteen conditions for Letter Range Score, twelve for Rejection Pattern Score, six for Primary-Secondary Pattern Score, and five for Total Standard Score. Thus the two best criterion variables, from the viewpoint of which correlated most frequently with the predictors in the moderator subgroups, were Letter Range Score and Rejection Pattern Score. This conclusion is similar to the one noted in the examination of the canonical coefficients of the first roots of the two samples. In both samples the coefficient of Letter Range Score was larger than those of Primary-Secondary Pattern Score and Total Standard Score. One can also note in Tables 5 and 7 that Rejection Pattern Score appears to have a combined importance in the two samples greater than that of the latter two variables also. In this study, then, the conclusion seems inescapable that the best criterion of profile height was the Letter Range Score.

Yet another point should be noted in respect to the criteria. It will be remembered from the discussion of Table 10 that Letter Range Score and Rejection Pattern Score had the smallest mutual correlation of all the criterion variable pairs. All of the other possible pairings of the criterion variables were significantly correlated in both the samples. Thus it would appear that the two criteria most strongly related to the predictors were also the two most independent among the criteria. Even though Letter Range Score correlated around .70 with both Primary-Secondary Pattern Score and Total Standard Score, the latter two were nowhere nearly as effective in "capturing" the variance of the predictor variables in the moderator groups as was the former. Thus the bulk of the correlations in Table 12 do not appear to be simply repetitions of correlations between the predictors and some common factor among the criterion variables.

It is not clear why Primary-Secondary Pattern Score was a poorer criterion measure than Letter Range Score, except possibly for the fact that Letter Range Score was defined in a way which included more of the variability of the SVIB profiles than did Primary-Secondary Pattern Score. Why Total Standard Score, with its even greater variability than Letter Range Score, was not as effective as Letter Range Score in relating to the predictor variables may be due to the possibility that Total Standard Score contains contradictory variances. An examination of a standard SVIB profile sheet reveals that Primary-Secondary Pattern Score was defined in such a way that its entire variance represents changes in positive differentiation on the SVIB. That is, only those occupational scores which are greater than the average score on each scale of the men-in-general group go into the production of the Primary-Secondary Pattern Score.[1] From the way it was defined, most of the variance in Letter Range Score is also attributable to scores greater than the averages of men-in-general, so that Letter Range Score measures mostly how the subjects differentiated themselves in a positive way from men-in-general. Now, as Table 10 shows, Total Standard Score correlated positively with Letter Range Score and Primary-Secondary Pattern Score in the two samples, so that all three, then, were measuring at least partially a kind of positive differentiation of the SVIB profile. However, Total Standard Score, from the way it was defined, includes variance not only from occupational scores higher than the averages of men-in-general but also from occupational scores lower than the averages of these men.

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[1] This men-in-general group was the second group so named, as discussed in footnote 4 in Chapter I. The average score of this group on each scale is represented by the center of the shaded areas on a standard SVIB profile sheet, on which the scores are reported.

The purest measure of scores lower than the averages of men-in-general, or negative differentiation, was Rejection Pattern Score. From the way it was defined, most of the SVIB occupational-scale scores which contributed to it were lower than the averages of the scores which men-in-general made on the scales. As was already pointed out, Rejection Pattern Score correlated positively with Primary-Secondary Pattern Score in the two samples with a correlation of about .23. Thus, extreme positive differentiation on the SVIB tended to be correlated with negative differentiation, so that very high scores on some SVIB occupational scales tended to be associated with the presence of very low scores on other occupational scales. And therefore there also seems to be a general factor of differentiation, as well as positive and negative differentiation factors. This general factor was, however, apparently partially cancelled out in the Letter Range Score and especially in the Total Standard Score, for these two correlated approximately -.16 and -.36, respectively, with Rejection Pattern Score. The correlation of Letter Range Score with Rejection Pattern Score was not significantly cross-validated, but the significant and larger negative correlation between Total Standard Score and Rejection Pattern Score seems to indicate that the positive differentiation factor in Total Standard Score was seriously confounded by the negative differentiation factor as represented by Rejection Pattern Score. That is, a very low score on a particular occupational scale, while possibly increasing the Rejection Pattern score of the individual, would also have lowered the Total Standard Score of that individual. Since the general differentiation factor indicates that there was a tendency for very high scores to be associated with other very low scores, then in Total Standard Score the result was for the extreme positive and negative differentiation factors to cancel each other out. And while Letter Range Score also tended to be negatively correlated with Rejection Pattern Score, the effect was not as large and evidently not as damaging to Letter Range Score's ability to relate to the predictor variables.

This probability of different common variances among the criterion measures raised the possibility of simplifying the data in Table 12 by arranging the relationships according to these possible common variances. Table 13 is thus a rearrangement of Table 12, containing exactly the same data. It was constructed according to these following rules. Since Letter Range Score (LRS) and Rejection Pattern Score (RPS) appeared to be the most effective criterion variables, any relationships which included them were considered to be of a primary nature. An attempt was made to treat the relationships involving Primary-Secondary Pattern Score (PSPS) and Total Standard Score (TSS) as secondary or supportive. This was done by examining Table 12 from the viewpoint of the different moderator conditions and noting whether any relationship within each particular condition which involved PSPS or TSS and a particular predictor variable were also accompanied by a relationship between either LRS or RPS and the same particular predictor variable. The restriction on this procedure was that PSPS was not made subordinate to RPS, only to LRS, since it is assumed that PSPS and RPS are respectively loaded on positive and negative differentiation. TSS, however, could be placed under either LRS or RPS since it seems to have variances in common with both positive and negative differentiation. One final exception occurred when a subgroup contained relationships involving both LRS and RPS when their correlations with a common predictor were in the same direction. Here

TABLE 13

SUPPORTED MODERATED RELATIONSHIPS BETWEEN CRITERION MEASURES AND VARIABLES USED AS PREDICTORS ARRANGED ACCORDING TO POSSIBLE COMMON VARIANCES

Relationships	Initial Sample	Cross-Validation Sample	Moderating Conditions
Complexity of Verbal Apparatus--PSPS	.24*	.30	High Conceptual Compartmentalization
(CVA--RPS)	(.35***	.27)	(High CC)
Conservatism-Riskiness--PSPS	-.33**	-.21	Low Social Desirability
Field Independence--LRS	-.37**	-.31	Low Complexity of Verbal Apparatus
(FI--TSS)	(-.32*	-.25)	(Low CVA)
Complexity of Verbal Apparatus--LRS	.24*	.28	High Conceptual Differentiation
(CVA--PSPS)	(.31**	.30)	(High CD)
Complexity of Verbal Apparatus--LRS	.31**	.25	High Internal Control
(CVA--PSPS)	(.39***	.45**)	(High IC)
(CVA--RPS)	(.25*	.33)	(High IC)
Complexity of Verbal Apparatus--LRS	.47***	.14	Low Social Desirability
(CVA--PSPS)	(.44***	.20)	(Low SD)
(CVA--RPS)	(.37**	.18)	(Low SD)
Category Width--LRS	-.27*	-.27	High Test Anxiety
(CW--TSS)	(-.27*	-.18)	(High TA)
(CW--RPS)	(.27*	.22)	(High TA)
Conceptual Differentiation--LRS	-.40***	-.22	High Test Anxiety
(CD--PSPS)	(-.37**	-.13)	(High TA)
(CD--TSS)	(-.35**	-.14)	(High TA)

Internal Control--LRS	-.26*	-.25	High Test Anxiety
Occupational Level--LRS	.32**	.24	High Field Independence
(OL--TSS)	(.31**	.36**)	(High FI)
Occupational Level--LRS	.29**	.35**	Medium Category Width
(OL--TSS)	(.26*	.15)	(Medium CW)
Occupational Level--LRS	.24*	.26	Low Category Width
Occupational Level--LRS	.34***	.15	Medium Conceptual Differentiation
(OL--PSPS)	(.22*	.27)	(Medium CD)
Occupational Level--LRS	.27**	.24	High Conceptual Compartmentalization
(OL--PSPS)	(.31**	.24)	(High CC)
(OL--RPS)	(.23*	.14)	(High CC)
Occupational Level--LRS	.35**	.35**	Medium Dogmatism
Occupational Level--LRS	.37***	.27	Medium Conservatism-Riskiness
Occupational Level--LRS	.25*	.26	Medium Test Anxiety
Occupational Level--LRS	.51***	.37	Low Social Desirability
(OL--TSS)	(.37**	.27)	(Low SD)
Specialization Level--LRS	-.33*	-.36**	Low Complexity of Verbal Apparatus
Specialization Level--LRS	-.27*	-.29	Medium Conceptual Compartmentalization
(SL--TSS)	(-.42***	-.11)	(Medium CC)
(SL--RPS)	(.33*	.20)	(Medium CC)
Specialization Level--LRS	-.36**	-.31	High Test Anxiety
Specialization Level--LRS	-.39**	-.35**	Low Occupational Level
(SL--TSS)	(-.38**	-.16)	(Low OL)
Specialization Level--TSS	-.28*	-.28	Low Internal Control
Field Independence--RPS	-.25*	-.38**	High Complexity of Verbal Apparatus
Complexity of Verbal Apparatus--RPS	.27*	.55***	Low Field Independence
(CVA--TSS)	(-.29**	-.29)	(Low FI)
Complexity of Verbal Apparatus--RPS	.23*	.26	Medium Verbal Equivalence Range
Complexity of Verbal Apparatus--RPS	.41***	.40**	Medium Dogmatism

TABLE 13 (continued)

Relationships	Initial Sample	Cross-Validation Sample	Moderating Conditions
Internal Control--RPS	.25*	.29	High Verbal Equivalence Range
Internal Control--RPS	.31**	.21	High Conceptual Compartmentalization
Internal Control--RPS	.37***	.23	Low Test Anxiety
Dogmatism--RPS	-.23*	-.33	High Internal Control
Dogmatism--RPS	-.27*	-.27	High Test Anxiety
Conservatism-Riskiness--RPS	-.30**	-.31**	High Social Desirability
Specialization Level--RPS	.31**	.43**	Low Field Independence
Specialization Level--RPS	.29**	.41**	Medium Complexity of Verbal Apparatus
Specialization Level--RPS	.41***	.31**	High Verbal Equivalence Range
Specialization Level--RPS	.43***	.18	High Conceptual Differentiation
(SL--TSS)	(-.27*	-.29)	(High CD)
Specialization Level--RPS	.41***	.23	High Internal Control
Specialization Level--RPS	.38***	.20	Medium Social Desirability
Specialization Level--RPS	.27**	.24	High Occupational Level

*$p < .10$
**$p < .05$
***$p < .01$

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

it would seem that the third, or general differentiation, factor was at work, and the RPS relationship was placed under the LRS relationship to display this possibility. In those subgroups where these accompaniments existed, the PSPS and TSS (and some RPS) relationships were placed in parentheses under the respective primary relationships involving LRS or RPS, even where their correlations were larger than those of LRS or RPS in the same moderator subgroup.

Table 13 shows the interesting result of this procedure. All but one of the TSS and two of the PSPS relationships were placed in supporting roles. Eight of the TSS were placed under LRS relationships, while two of them were placed under RPS relationships. In respect to these latter relationships, the opposite correlation signs are existing, presumably because of the negative correlation between RPS and TSS due to their being scored in opposite ways, as mentioned. It appears, then, that TSS served little function in this study independent of LRS or RPS, while PSPS mostly echoed the relationships of LRS.

The primary question addressed to the moderator analyses of the two samples was, of course, whether these analyses would reveal relationships, which would otherwise not have been apparent, between the cognitive differentiation variables and the criterion variables. The groupings of the moderated relationships in Table 13 form the basis for this examination.

Positive Differentiation

Neither of the two relationships between PSPS and variables used as predictors, which were not mirrored by relationships involving LRS, was cross-validated significantly. The relationship with Complexity of Verbal Apparatus in the condition of High Conceptual Compartmentalization was significant at only the .10 level in the initial sample and did not attain the .05 level of significance in the cross-validation sample (the required correlation for the latter level in this particular cross-validation subgroup was .32). This PSPS relationship did not stand alone in this condition, however, for in the High Conceptual Compartmentalization condition also existed a fairly significant relationship between Complexity of Verbal Apparatus and RPS, as can be seen lower in the table (correlations of .35, $p < .01$, and .27). The tendency appears, then, for Complexity of Verbal Apparatus in this particular condition to be predicting general differentiation rather than just positive differentiation, as will be examined more fully later. Since Complexity of Verbal Apparatus was an important predictor of both LRS and RPS, as Table 13 shows, it is possible that this particular Complexity of Verbal Apparatus-PSPS relationship is part of a more general pattern. The mildly supported Conservatism-Riskiness-PSPS relationship in the condition of Low Social Desirability will be analyzed more fully later in the examination of the various important moderating conditions. As a predictor, however, Conservatism-Riskiness related to only one other criterion variable, RPS, in only one other condition, High Social Desirability.

The prediction of positive differentiation as represented by LRS was accomplished significantly by only Occupational Level and Specialization Level, but there were important trends in the relationships of Field Independence, Complexity of Verbal Apparatus, and Conceptual Differentiation with LRS. These relationships existed, of course, only within the moderator subgroups specified in Table 13. Of these five relationships, only the last three involve the original hypotheses of this study, since the non-occupational scales were checked for "predictability" mainly for investigatory reasons. Two other very weak trends involved two other variables included in the hypotheses, Category Width and Internal Control.

Of the three strong relationships involving cognitive-differentiation variables, two were in directions opposite to that hypothesized, and the remaining one supported one of the original hypotheses. Hypothesis 1 had predicted that the field-independent person, being more differentiated from his environment, would also be more capable of producing a differentiated SVIB profile, a higher profile. The results suggest, however, that among those students low on Complexity of Verbal Apparatus the greater the Field Independence, the lower, or less positively differentiated, the occupational profile. Similarly, Hypothesis 3c had predicted that Conceptual Differentiation (as measured by the Object Sorting Test) would be positively related to a higher SVIB profile, but among the highly test-anxious students the relationship tended to be a negative one. That is, among those students who scored high on Test Anxiety, the more categories they used on the Object Sorting Test, the lower an SVIB profile they tended to produce.

Hypothesis 2 had predicted that there would be a positive correlation between Complexity of Verbal Apparatus and LRS (as well as PSPS and TSS). In four different moderating conditions there were strong tendencies for this hypothesis to be upheld, three of them involving both LRS and PSPS and the fourth involving PSPS alone, as described above. The only significantly cross-validated relationship in this study between PSPS and a predictor variable involved Complexity of Verbal Apparatus in the High Internal Control condition; the remaining 431 conditions contained no other significant relationships involving PSPS.

This significant correlation between Complexity of Verbal Apparatus and PSPS seems to represent a concentration of the relationship that tended to exist in the two samples taken as wholes. The intercorrelation matrices (Tables 8 and 9) revealed that the overall relationship between Complexity of Verbal Apparatus and PSPS in the initial sample was $r = .16$ ($p < .05$) and in the cross-validation sample, $r = .10$. However, the corresponding correlations involving LRS were only .09 and .07. Thus the moderator analysis revealed certain kinds of students in which Complexity of Verbal Apparatus does tend to predict positive profile differentiation, as measured especially by PSPS and, to some extent, LRS.

Hypotheses 3a and 4 had predicted that Category Width would be negatively related to the measures of profile height and that Internal Control would be positively related to these measures. As Table 13 indicates, in the moderating condition of High Test Anxiety there was a tendency for a negative correlation between Category Width and LRS (and TSS) and for a negative correlation between Internal Control and LRS. Within this particular condition, then, Hypothesis 3a received very weak support and Hypothesis 4, very weak contradiction.

To summarize, the original hypotheses of this study were not very accurate in predicting the moderated relationships. Hypothesis 2 did receive some support, as well as Hypothesis 3a, very weakly. However, Hypotheses 1, 3c, and 4 were contradicted by results in some conditions in a direction opposite to that predicted. Thus Hypotheses 3b and 3d received no support in any of the subgroups. An implication of Hypotheses 5, that Dogmatism might be moderated by Occupational Level, was also not supported, as Table 12 shows; Dogmatism was not related in the two samples to any of the criterion measures of positive profile height in any moderator subgroups.

The two other variables strongly related to LRS in Table 13 were, as mentioned, Occupational Level and Specialization Level. Occupational Level correlated positively with LRS (and PSPS and TSS) in several moderating conditions, so that the higher the socio-economic interests of the students within these subgroups, the higher, or more positively differentiated, SVIB profile they tended to produce. Whereas this relationship was found to be significantly cross-validated in several subgroups, in the overall samples it did not quite attain significance. As Tables 8 and 9 indicate, in the initial sample Occupational Level correlated with LRS, PSPS, and TSS at levels of .20 ($p < .05$), .18 ($p < .05$), and .09, respectively, and in the cross-validation sample the correlations were .17, .12, and .18, respectively.

The moderator subgroups within which this tendency was revealed to be especially concentrated were a varied group. Significant cross-validation occurred in the moderating conditions of High Field Independence, Medium Category Width, and Medium Dogmatism, while some support was found in the conditions of Low Category Width, Medium Conceptual Differentiation, High Conceptual Compartmentalization, Medium Conservatism-Riskiness, Medium Test Anxiety, and Low Social Desirability. With the exception of one condition involving Specialization Level, it was only with the relationship between Occupational Level and LRS (and PSPS and TSS) that any of the medium moderating conditions assumed any importance in facilitating relations between predictors and the three criterion measures of positive profile height (Table 13). Thus when those subjects who gave extreme answers on Dogmatism, Conceptual Differentiation, Conservatism-Riskiness, Test Anxiety, and, to a degree, Category

Width were discarded, the remaining subjects displayed a tendency for interests in higher level socio-economic occupations to be associated with a higher SVIB profile.

Specialization Level was correlated negatively with profile height in four conditions, significantly in two. This effect occurred only with LRS and TSS, not with PSPS. In referring back to Table 8, one notes there was an overall significant correlation between Specialization Level and TSS in the initial sample ($r = -.22$; $p < .01$), but the correlation of Specialization Level with LRS in the initial sample was only -.11. In the cross-validation sample (Table 9) the correlation between Specialization Level and TSS fell to -.03, while the correlation of Specialization Level and LRS held at -.14. The moderator analyses (Table 13) did not reveal any really stable relationship of Specialization Level with TSS in the two samples, but they did, as mentioned pinpoint four kinds of students in which the small but steady relationship between Specialization Level and LRS was especially concentrated. In these four conditions the trend seems to have been that the more the person had interests like those who have an occupation requiring very specialized knowledge (and which probably entailed some post-bachelor's level education) the lower an overall profile he produced on the SVIB. Thus though it may be true that specialized interests can elevate one or more occupational scales, the overall effect seemed to be a lowering of most of the scales, producing an overall lower profile. And this effect seemed to be especially true in those subjects who had interests in the lower socio-economic occupations, those who preferred verbal simplicity, those who claimed a lot of anxiety on examinations, and those who were medium in compartmentalizing concepts. Especially the non-statusseeking, the relatively simple, and the anxious seemed to express the need to simplify their specialized occupational interests by lowering their interests in other fields.

Negative Differentiation

As indicated in the previous chapters, it was considered to be important to include an investigation of the rejection of occupations on the SVIB, using the variable invented for this study from the concept of reject patterns--Rejection Pattern Score. As already indicated, this variable turned out in this study to be an important one, and Table 13 shows that it was significantly related to several variables used as predictors. Three of these significant predictors, Field Independence, Complexity of Verbal Apparatus, and Specialization Level, were also related to LRS, as noted, while the other significant predictor, Conservatism-Riskiness, was also related to PSPS. Though both of the SVIB non-occupational scales included in this study were related to LRS, only Specialization Level was related to RPS in some of the moderator subgroups. In addition, there was some tendency for Internal Control and Dogmatism to predict RPS.

Field Independence was negatively correlated with RPS in one moderator subgroup, High Complexity of Verbal Apparatus. Thus among those who preferred considerable verbal complexity, the more the subject tended to be field dependent, the more he tended to reject occupational families. This relationship did not hold in the two samples taken as entireties, for the correlations between Field Independence and RPS in the two samples as wholes were -.04 and -.07, initial and cross-validation samples respectively (Tables 8 and 9).

Field Independence and Complexity of Verbal Apparatus interacted in yet another way in relating to RPS. As can be seen in Table 13, in the condition of Low Field Independence there was a positive correlation between Complexity of Verbal Apparatus and RPS, so that the more those with a poor ability to separate a figure from a ground preferred verbal complexity, the more occupational families they rejected on the SVIB. It would appear, then, that a combination of preference for verbal complexity and an inability to handle complex figure-problems is particularly related to the rejction of occupational families.

Complexity of Verbal Apparatus was also related to RPS in the conditions of Medium Dogmatism, High Conceptual Compartmentalization, and Medium Verbal Equivalence Range, though in the last two conditions the relationship was not significant in the cross-validation sample. There was some tendency for this relationship between Complexity of Verbal Apparatus and RPS to exist in the initial and cross-validation samples as wholes, for the correlations between these two in the samples were .23 ($p < .01$) and .14, respectively (Tables 8 and 9).

Whereas Internal Control tended to be related to LRS in only one moderating condition, it tended to be related to RPS in three different conditions, none of them the same as the one involved with LRS. The conditions of High Verbal Equivalence Range, High Conceptual Compartmentalization, and Low Test Anxiety seemed to concentrate the low but steady positive correlations between Internal Control and RPS in the two samples as wholes (.14 and .12, initial and cross-validation samples respectively; Tables 8 and 9). Thus the more these subjects felt in control of the reinforcements in their lives, the more they tended to reject some occupational families.

Dogmatism also was weakly related to RPS in two conditions, High

Internal Control and High Test Anxiety. The subjects in these conditions tended to have more of the general relationship found in the samples as wholes, where Dogmatism correlated with RPS in the initial sample at -.13 and in the cross-validation sample, -.19 (Tables 8 and 9). The more dogmatic these students, the less of a negative differentiation they made on the SVIB profiles.

Conservatism-Riskiness was also negatively correlated significantly with RPS in the subgroup of subjects who answered in highly socially desirable ways. In the initial sample as a whole this correlation was significant at -.25 ($p < .01$), but in the cross-validation sample as a whole the correlation was only -.06 (Tables 8 and 9). Thus it appears that a willingness to take risks led to more occupational family rejection, or more negative differentiation, primarily in the High Social Desirability subgroups. As mentioned, Conservatism-Riskiness and Social Desirability combined to relate to one other criterion variable, PSPS, but with that relationship the condition of Social Desirability involved was the low condition rather than the high one.

Specialization Level was the variable related to RPS in the greatest number of moderator subgroups. These subgroups located more specifically the relationship which appeared in the intercorrelation matrices of the two samples (Tables 8 and 9), where the correlation between Specialization Level and RPS in the initial sample was .28 ($p < .01$) and in the cross-validation sample, .16. The subgroups in which this effect was especially concentrated were Low Field Independence, Medium Complexity of Verbal Apparatus, and High Verbal Equivalence Range, with High Conceptual Differentiation, High Internal Control, Medium Social Desirability, and High Occupational Level also containing some support. In these subgroups the more a student was interested in an occupation which requires a narrow, specialized knowledge, the more he tended to reject SVIB occupational families, or to be negatively differentiated on the SVIB.

In respect to the SVIB non-occupational scales, it should again be noted that whereas Occupational Level was related to PSPS, TSS, and LRS, it was not represented at all among the variables significantly related to RPS. And though Specialization Level predicted both a less positively differentiated profile and a more negatively differentiated profile, it was not related significantly in any of the conditions with TSS, the measure which seemingly confounds both negative and positive SVIB differentiation.

General Differentiation

In three different moderating conditions in Table 13, correlations involving PSPS, LRS, and RPS all ran in the same direction with some strength. These conditions twice involved the predictor Complexity of Verbal Apparatus and once, Occupational Level, when it served as a predictor. In the conditions of High Internal Control and Low Social Desirability, Complexity of Verbal Apparatus tended to predict both positive differentiation (PSPS and LRS) and negative differentiation (RPS), as did Occupational Level in the condition of High Conceptual Compartmentalization. In addition, in the condition of High Conceptual Compartmentalization, Complexity of Verbal Apparatus tended to predict both PSPS and RPS (but not LRS). Thus, following the discussion above, one might say that these two predictors, Complexity of Verbal Apparatus and Occupational Level, in their given moderator conditions were predicting the third, or general differentiation, factor in the criterion variables.

In addition to these effects involving Complexity of Verbal Apparatus in the three moderating conditions, there was some tendency for Complexity of Verbal Apparatus to relate positively to both PSPS and RPS in the two samples as wholes. The correlations with PSPS were .16 ($p < .05$) and .10, and with RPS, .23 ($p < .01$) and .14, initial and cross-validation samples respectively (the corresponding correlations with LRS were only .09 and .07; Tables 8 and 9). While the respective initial and cross-validation sample correlations between Occupational Level and PSPS were .18 ($p < .05$) and .12 and between Occupational Level and LRS were .20 ($p < .05$) and .17, the correlations between Occupational Level and RPS were only .09 and .03. In fact, Tables 8 and 9 show that the only predictor which tended to predict this general differentiation factor in the two samples as wholes was Complexity of Verbal Apparatus.

The moderator analysis thus revealed that it was among the subjects in the conditions of High Internal Control, Low Social Desirability, and High Conceptual Compartmentalization that the general tendency for Complexity of Verbal Apparatus to predict general differentiation was especially concentrated. In these conditions those subjects who tended to be higher in Complexity of Verbal Apparatus also tended to be differentiated from men-in-general on the SVIB in having both occupations scoring higher and occupations scoring lower than men-in-general. The higher the preference for verbal complexity of these subjects, the more they were different from men-in-general in patterning their occupational matches and rejections.

There was yet another type of grouping of the criterion variables in two of the moderating conditions, though not involving the general differentiation factor. There was a tendency for Category Width in the condition High Test Anxiety and for Specialization Level in the condition Medium Conceptual Compartmentalization to be related negatively to LRS and TSS but positively to RPS. Here the relationships among the criterion variables combined in a way such that the higher the Category Width and the higher the Specialization Level, the lower the SVIB profile, in terms of being both less positively differentiated and more negatively differentiated. Or, conversely, those with a lower Category Width score and a lower Specialization Level score also tended to have higher occupational scores than men-in-general and fewer rejections than men-in-general. It was only in these two cases, however, that there was any marked tendency for variables to predict the same direction of movement of scores across the SVIB profile sheet, both above and below those average scores of men-in-general.

Moderating Conditions

In order to understand fully the relationships presented in Table 13, they must be described in terms of the moderating conditions within which they were located. To facilitate this description another table was prepared which groups the relationships according to the different moderating conditions. Table 14 contains, then, the same relationships as were in Tables 12 and 13, but grouped according to the moderating conditions within which they existed.

The variables used as moderator variables were of two types. The last four moderator variables in Table 14 were types of "motivational" variables included in this study specifically for their possible moderating effects. The first eight variables were the cognitive-differentiation variables which were also checked for possible moderating influences on both other cognitive-differentiation variables and on the

TABLE 14

SUPPORTED MODERATED RELATIONSHIPS ARRANGED ACCORDING TO MODERATING CONDITIONS

Moderator Variables	Moderating Conditions	Relationships
Field Independence	High	Occupational Level--LRS (+)* (OL--TSS) (+)**
	Low	Complexity of Verbal Apparatus--RPS (+)** (CVA--TSS) (-) Specialization Level--RPS (+)**
Complexity of Verbal Apparatus	High	Field Independence--RPS (-)**
	Medium	Specialization Level--RPS (+)**
	Low	Field Independence--LRS (-) (FI--TSS) (-) Specialization Level--LRS (-)**
Category Width	Medium	Occupational Level--LRS (+)** (OL--TSS) (+)
	Low	Occupational Level--LRS (+)
Verbal Equivalence Range	High	Internal Control--RPS (+) Specialization Level--RPS (+)**
	Medium	Complexity of Verbal Apparatus--RPS (+)
Conceptual Differentiation	High	Complexity of Verbal Apparatus--LRS (+) (CVA--PSPS) (+) Specialization Level--RPS (+) (SL--TSS) (-)
	Medium	Occupational Level--LRS (+) (OL--PSPS) (+)
Conceptual Compartmentalization	High	Complexity of Verbal Apparatus--PSPS (+) Complexity of Verbal Apparatus--RPS (+) Internal Control--RPS (+) Occupational Level--LRS (+) (OL--PSPS) (+) (OL--RPS) (+)
	Medium	Specialization Level--LRS (-) (SL--TSS) (-) Specialization Level--RPS (+)
Internal Control	High	Complexity of Verbal Apparatus--LRS (+) (CVA--PSPS) (+)** (CVA--RPS) (+) Dogmatism--RPS (-) Specialization Level--RPS (+)
	Low	Specialization Level--TSS (-)

TABLE 14 (continued)

Moderator Variables	Moderating Conditions	Relationships
Dogmatism	Medium	Complexity of Verbal Apparatus--RPS (+)** Occupational Level--LRS (+)**
Conservatism-Riskiness	Medium	Occupational Level--LRS (+)
Test Anxiety	High	Category Width--LRS (-) (CW--TSS) (-) Category Width--RPS (+) Conceptual Differentiation--LRS (-) (CD--PSPS) (-) (CD--TSS) (-) Internal Control--LRS (-) Dogmatism--RPS (-) Specialization Level--LRS (-)
	Medium	Occupational Level--LRS (+)
	Low	Internal Control--RPS (+)
Social Desirability	High	Conservatism-Riskiness--RPS (-)**
	Medium	Specialization Level--RPS (+)
	Low	Complexity of Verbal Apparatus--LRS (+) (CVA--PSPS) (+) (CVA--RPS) (+) Conservatism-Riskiness--PSPS (-) Occupational Level--LRS (+) (OL--TSS) (+)
Occupational Level	High	Specialization Level--RPS (+)
	Low	Specialization Level--LRS (-)** (SL--TSS) (-)

*Direction of the correlations.
**Relationships cross-validated significantly.

motivational variables when these latter were checked for their ability to predict. It appears from the table that the cognitive variables were somewhat more successful in arranging the students into meaningfully homogeneous groups than were the variables hoped to be specifically moderating. From the viewpoint of facilitating significant relationships, apparently the most effective moderator variables were Field Independence, Complexity of Verbal Apparatus, Category Width, Verbal Equivalence Range, Internal Control, Dogmatism, and Social Desirability, though Conceptual Compartmentalization and Test Anxiety moderated a large number of important trends.

It is also of interest to note that the original moderator variables (the last four in Table 14) did not serve their intended function very well. Only one significant relationship was moderated by one of these variables, Social Desirability, and this relationship did not involve any of the cognitive-differentiation variables--it involved, instead, one of the original moderator variables, Conservatism-Riskiness, which was also investigated for its ability to predict. Among the trends moderated by these variables were, however, some cognitive-differentiation variables, as well as the SVIB non-occupational variables. The bulk of the significant relationships, which involved both cognitive-differentiation variables and SVIB non-occupational variables, were moderated by cognitive-differentiation variables, as revealed by the investigation of the latter's ability to moderate as well as to predict. In general, then, the cognitive-differentiation variables moderated, and were moderated by, other cognitive-differentiation variables; and they also moderated relations involving the SVIB non-occupational scales. The four moderator variables, included for their specific hoped-for moderating effects on the cognitive variables, failed to moderate significantly any relationships involving these cognitive variables.

Most of the important moderating conditions of the cognitive-differentiation variables in Table 14 were of the two extremes of either high or low conditions. One can see that all of the medium conditions involved either Occupational Level or Specialization Level, with two exceptions--the weak trend involving Complexity of Verbal Apparatus in Medium Verbal Equivalence Range and the significant relationship between Complexity of Verbal Apparatus and RPS in Medium Dogmatism. When the cognitive variables were used as moderator variables, their extreme conditions of high and low were intended to select, typically, either differentiated or undifferentiated students along some particular cognitive-style dimension. Thus, for example, the High Field Independence condition was intended to select students who were relatively differentiated from their environments, while High Verbal Equivalence Range hopefully selected students who had relatively undifferentiated verbal cognitive maps. Some order can be brought into the results by considering the relationships as being involved with differentiated or undifferentiated students, but contradictory trends still exist.

First, one can note that a grouping of undifferentiated conditions was involved with the relationships of Specialization Level to LRS and RPS. The subjects in the conditions of Low Field Independence, Low Complexity of Verbal Apparatus, and High Verbal Equivalence Range were nominally undifferentiated along these particular cognitive dimensions. In the conditions of Low Field Independence and High Verbal Equivalence Range, Specialization Level was positively correlated significantly with RPS, and in Low Complexity of Verbal Apparatus, Specialization Level was negatively correlated significantly with LRS. In these relatively undifferentiated groups, the correlations suggest that the more these different kinds of undifferentiated students wanted to specialize, either the more they rejected occupations (+RPS) or the less they were interested in occupations (-LRS). It would appear, then, that the cost to the relatively undifferentiated of wanting to specialize is a rejection of many other occupational interests. The lack of this relationship in the differentiated subgroups would suggest that among differentiated subjects interest in specializing does not necessarily lead to a narrowing of interests; at least some of them are capable of having interests in specialized occupations while at the same time maintaining interests in a variety of kinds of work.

Two exceptions existed to this generality about these three significantly cross-validated results, though neither were themselves cross-validated significantly. The Specialization Level-RPS relationship tended to exist also in the conditions of High Conceptual Differentiation and High Internal Control. Students were placed in the High Conceptual Differentiation condition when they used many different categories to sort object-names in the Object Sorting Test, suggesting they had very differentiated conceptual processes. The High Internal Control groups included those who felt very much in control of their reinforcements and thus who, it was suggested, have reason for gathering and maintaining differentiated occupational information. From the general hypothesis of this study it would seem reasonable that it is these differentiated students who are capable of patterning their occupational rejections, or of making negative differentiations, but these results were only trends, while the opposite findings reported above were significantly cross-validated. The exceptions will be further related to other results below.

The second grouping of significant relationships also involved cross-validated relationships involving undifferentiated students. Among undifferentiated students as selected by the Low Field Independence condition, Complexity of Verbal Apparatus was positively correlated with RPS. The more these students undifferentiated from their environments preferred verbal complexity, the more occupational families they tended to reject. Moreover, a complimentary relationship existed in the condition of High Complexity of Verbal Apparatus. The lower the Field Independence scores of these preferrers of verbal complexity, the more families they rejected. Thus, combinations of field dependence and verbal complexity appeared to facilitate occupational family rejection, or negative profile differentiation. It should be noted that nowhere else in Table 14 do two variables complement each other by each serving as a moderator for the other in relation to the same criterion variable.

The condition of Low Field Independence involved in this grouping was also involved in the first grouping. Thus, among these field-dependent persons, being either complex or specialized in interests helped to produce rejection. Back in the reporting on Table 10 it was noted that in both of the samples as wholes Specialization Level and Complexity of Verbal Apparatus correlated significantly at about .41. It may be that in the condition of Low Field Independence the common variance of these two was at work, but one can note in Table 14 that there were no other conditions in which Specialization Level and Complexity of Verbal Apparatus were both significantly related to the same criterion variable. In any case, contrary to what one might predict from a general differentiation hypothesis, it was among these poorly differentiated students (Low Field Independence) that other types of differentiation (Complexity of Verbal Apparatus and Specialization Level) were associated with negative profile differentiation. Though field-dependent people are supposed to be non-analytical and poorly articulated from their environment, when they preferred verbal complexity or had specialized interests they evidently were able, in some way, to analyze, articulate, or pattern their vocational dislikes in a clearer way than when they preferred verbal simplicity or had less specialized interests.

Yet another difficult finding existed in the relationship between Field Independence and Complexity of Verbal Apparatus. There was a tendency in the Low Complexity of Verbal Apparatus condition for Field Independence to be negatively related to positive profile differentiation as measured by LRS and TSS. Among these people preferring verbal simplicity, the more field dependent they were, the more positively differentiated an SVIB profile they produced. Conversely, the more field independent these simple ones were, the less differentiated their profiles were. The tendency was, then, for a combination of articulateness and simpleness to supress positive differentiation and for globalness and simpleness to allow positive differentiation, contrary to a differentiation hypothesis.

An additional combination of differentiated and undifferentiated attributes, similar to that involving High Complexity of Verbal Apparatus and Low Field Independence, also tended to exist in the High Verbal Equivalence Range condition. This condition was also mentioned above as containing an instance of the first generalization, that involving a significant Specialization Level-RPS relationship. In this condition Internal Control also tended to be positively correlated with RPS. Thus again the more differentiated (more Internal Control) these undifferentiated (High Verbal Equivalence Range) students were, the more occupational families they tended to reject, or the more negatively differentiated they tended to be.

A third grouping of results in Table 14 followed more what one would predict from a general differentiation hypothesis. In this grouping, certain kinds of highly differentiated students tended to have more differentiated SVIB profiles when they were more differentiated along other cognitive dimensions. That is, two kinds of differentiation combined to produce tendencies toward profile differentiation. The differentiated conditions involved were High Conceptual Differentiation, High Conceptual Compartmentalization, and High Internal Control.

The one significantly cross-validated relationship in this grouping was between Complexity of Verbal Apparatus and PSPS in the condition of High Internal Control. However, accompanying this relationship in this condition were also non-significantly supported relationships between Complexity of Verbal Apparatus and LRS and RPS. Thus in the condition of High Internal Control there was a tendency for Complexity of Verbal Apparatus to predict both positive and negative differentiation, or general differentiation. Having a strong feeling of being in control of one's life seemed to have allowed the person's preference for verbal complexity to be utilized in forming definite patterns of occupational interests and rejections.

It was also in the condition of High Internal Control that one of the contradictions to the first generalization existed. In this condition, though the correlations were not significantly cross-validated, Specialization Level again tended to join with Complexity of Verbal Apparatus in predicting occupational rejection. If Specialization Level is taken as a measure of a type of differentiation, then again differentiation joined with differentiation to produce SVIB negative profile differentiation.

The third instance in the condition of High Internal Control of the third generalization involved Dogmatism. The tendency was for Dogmatism to be negatively related to RPS, so that the less dogmatic these High Internal Control subjects were, the more occupational families they rejected. This again seems consistent with the general differentiation hypothesis, for the more dogmatic persons are supposed to be less open to new beliefs and to have a more simplistic, or a more "black-and-white," cognitive organization of their beliefs. The less dogmatic, or more differentiated, these High Internal Control students, the more they could organize their dislikes into specific occupational rejections.

The third generalization can also be drawn from the condition of High Conceptual Compartmentalization. Though Conceptual Compartmentalization was not a successful predictor of the criterion variables, its high and low conditions did moderate several non-significant tendencies. The high condition included those subjects who could not find categories for a large number of object-names in the Object Sorting Test, which seems to represent a sort of extreme unconnected differentiation. Among these subjects who had difficulty tying together elements to form a concept, two measures of cognitive differentiation tended to be related to profile differentiation. Complexity of Verbal Apparatus again tended to be positively correlated with PSPS and RPS, suggesting again a correlation with a general differentiation factor. Internal Control correlated positively with RPS, as it was in the condition of High Verbal Equivalence Range as discussed above. The location of this Internal Control-RPS relationship in both High Verbal Equivalence Range and High Conceptual Compartmentalization conditions is a contradiction, since the former condition selected undifferentiated students and the latter, differentiated. But, as mentioned, these two conditions appear to be instances of the partially contradictory generalities two and three.

Finally, High Conceptual Differentiation also yielded an instance of the third generalization. Among these kind of differentiated students, those who tended to prefer verbal complexity tended to have more positively differentiated profiles. This condition also contained the other contradiction to the first generalization, for Specialization Level tended to be positively correlated with RPS (and negatively with TSS) among these kinds of differentiated students. Thus both of the exceptions to the first generality appear to have affinities with the third generalization, which is partially contradictory to the first.

A fourth grouping of results in Table 14 concerns the other SVIB non-occupational scale used in this study, Occupational Level. There were tendencies for a higher Occupational Level Score to be associated with a more differentiated SVIB profile in three different high differentiation conditions. In the condition of High Conceptual Compartmentalization, Occupational Level tended to correlate positively with PSPS, LRS, and RPS, or with the general differentiation factor in the criterion variables. This was the same condition in which Complexity of Verbal Apparatus tended to be related to the general differentiation factor, so in this condition Complexity of Verbal Apparatus and Occupational Level performed similar functions. In the overall samples these two tended to be related to each other with correlations of .14 and .20 ($p < .05$), initial and cross-validation samples respectively (Tables 8 and 9). However, in only one other condition did these two variables relate to the same criterion variable, and that was in the condition of

Low Social Desirability. In the present condition of High Conceptual Compartmentalization, interest in higher status occupations appeared to help these compartmentalized students to pattern their differentiated interests into occupational family acceptance and rejection. Another parenthetical remark should also be entered here about the occurrence of an Internal Control-RPS relationship in this condition. Though Internal Control and Occupational Level correlated in the two samples as wholes at about .26 (cf. Table 10), in no other condition did they tend to relate to the same criterion variable as they did in this condition.

In the condition of High Field Independence, Occupational Level tended to correlate positively with LRS and did correlate significantly with TSS. Interest in status appeared to combine with differentiation from the environment to produce a more positively differentiated profile.

The third instance of the fourth generalization occurred with Category Width, when it was used as a moderator variable. Category Width was not a very effective predictor, for it related weakly to the criterion variables only in the condition of High Test Anxiety, and as a moderator variable it helped to relate only Occupational Level to LRS (and TSS). Its moderating function was curious also in that the Occupational Level-LRS relationship was weakly supported in the low condition and significantly cross-validated in the medium condition. The low condition included those students who tended to use narrow quantative categories, implying a more differentiated quantative cognitive system. Though the significant relationship occurred in the medium condition, the tendency in the low condition and the absence of it in the high condition suggest that the production of a more positive profile by the interest in status was facilitated by at least some differentiation of quantative categories as opposed to little differentiation in the high-width condition.

The significant occurrence of the Occupational Level-LRS relationship in Medium Category Width may, however, be an instance of the curious fifth grouping of results in Table 14. As already mentioned, Occupational Level was related to positive profile differentiation (though not at all to negative differentiation) in a number of medium conditions, and twice, significantly. The conditions containing significant relations were Medium Category Width, as just discussed, and Medium Dogmatism. The relationship was weakly supported in the medium conditions of Conceptual Differentiation, Conservatism-Riskiness, and Test Anxiety. In all these conditions, only one of them, Medium Dogmatism, contained any additional important relationships between other variables; in Medium Dogmatism, Complexity of Verbal Apparatus was significantly related to RPS. Further, in only two instances was there any tendency for the Occupational Level-LRS (or -PSPS) relationship to occur in either the high or low conditions of the same moderator variables. As pointed out above, the relationship in Medium Category Width tended to exist in Low Category Width, while the relationship in Medium Test Anxiety also tended to occur in Low Test Anxiety (the correlations in the Low Test Anxiety condition between Occupational Level and LRS in the initial and cross-validation samples were .37 ($p < .01$) and .19, respectively, just missing inclusion among the "trends" in Tables 12, 13, and 14, as Table 44 in Appendix D shows. For some reason, these middle-of-the-road students on these different dimensions were particularly able to use status interests in differentiating their occupational profile in a positive direction.

A similar, though not so striking, occurrence of Specialization Level relationships in medium conditions can be seen in Table 14. Specialization Level tended to correlate with RPS in the medium conditions of Complexity of Verbal Apparatus, Conceptual Compartmentalization, and Social Desirability, while the medium conditions of Conceptual Compartmentalization and Internal Control also contained relations between Specialization Level and LRS and TSS.

These five generalizations with their stated exceptions or contradictions seem to exhaust most of the relationships among the cognitive variables when they served as moderators. The functions of the remaining four moderator variables, those included specifically for hoped-for moderating effects, are not quite so easily described. The first, Conservatism-Riskiness, functioned poorly as a predictor and even worse as a moderator. The one relationship it moderated was included above in the discussion of the Occupational Level-LRS locations. The other three moderators served somewhat better, though the large number of relationships under Test Anxiety included none cross-validated significantly, and those under Occupational Level, while including one which was significantly cross-validated, involved only Specialization Level.

In the High Test Anxiety condition, the main effect of the variables seemed to be that the more differentiated the students were, the lower occupational scores they obtained on the SVIB, as measured by both lower LRS scores and higher RPS scores. As Table 14 shows, Conceptual Differentiation, Internal Control, and Specialization Level were all negatively correlated with LRS (and in some cases PSPS and TSS). With all three, the higher the scores, and thus the higher the differentiation, the lower the LRS score, and thus the lower the positive profile differentiation. Dogmatism tended to be negatively correlated with RPS, such that the more differentiated the subject (the lower the Dogmatism score), the more occupational scores below those of men-in-general he made, and the more negatively differentiated a profile he produced.

The exception to this generalization about the relationships under the condition of High Test Anxiety involved Category Width. Category Width tended to correlate negatively with LRS and TSS and positively with RPS, such that the broader the categories, and thus the less differentiated the categories, the lower the LRS scores and the higher the RPS scores. Thus, instead of higher differentiation leading to lower SVIB occupational scores, as described above, in this case lower differentiation led to lower SVIB occupational scores. With these highly anxious students, then, differentiation led to more positive differentiation in one case, but in three cases it led to less positive differentiation. Perhaps these latter three kinds of differentiation in an anxious person only makes him more confused rather than enabling his occupational interests to be patterned.

In the Low Test Anxiety Condition, there was a tendency for Internal Control to be positively correlated with RPS, such that the greater the claimed control over reinforcements (and the greater the resulting differentiation), the more negatively differentiated an SVIB profile. In addition, the weak Occupational Level-LRS relationship in the medium condition also tended to exist in the low condition, as pointed out above. Thus, it was also among those relatively low in Test Anxiety that the greater status interests tended to lead to a higher SVIB profile.

Social Desirability had some effect as a moderator variable, moderating one significant relationship and several other trends. The one significant relationship was in the high condition, while the trends were mostly in the low condition. As indicated in the first chapter, those subjects high in Social Desirability are considered to be very defensive, while the low subjects are supposedly very non-defensive, or open. Only one relationship appeared among the defensive students, that between Conservatism-Riskiness and RPS. This significant relationship suggested that defensive students who were willing to take risks also rejected more occupational families, while those defensive students who were more conservative did not reject so many occupations. Thus defensiveness and a non-risky conservatism appeared to combine to suppress negative differentiation.

Among the non-defensive students in the Low Social Desirability condition, Conservatism-Riskiness made its only other appearance as a predictor. In this condition Conservatism-Riskiness tended to be negatively correlated with PSPS, so that the more conservative the student was, the fewer primary and secondary patterns he tended to have on the SVIB. Conversely, the more willing these non-defensive students were to take risks the more primary and secondary patterns they tended to have. In the two conditions of High and Low Social Desirability, then, the more risky the defensive students tended to be, the more rejects they made, while the more risky the non-defensive students tended to be, the more primaries and secondaries they made. Therefore, in both conditions, the tendency to be a non-risk-taker, or to be conservative, led to a profile less distinguishable from that of men-in-general. To repeat, riskiness was associated with profile differentiation only when students were grouped according to defensiveness.

The non-defensive students also exhibited other trends involving Complexity of Verbal Apparatus and Occupational Level. Complexity of Verbal Apparatus tended to be related positively to PSPS, LRS, and RPS, or to the suggested general differentiation factor. Thus, in both of the conditions of High Internal Control and Low Social Desirability, the more the students preferred verbal complexity the more they tended to differentiate their SVIB profiles in both a positive and negative direction from that of men-in-general. The trend between Occupational Level and LRS (and TSS), suggests that the non-defensive students were similar to the relatively non-anxious students in having the tendency for interest in status to raise the SVIB profile.

Occupational Level functioned as a moderator variable only for Specialization Level. Among the high-status oriented students, an interest in specializing tended to produce more rejections. Among the low-status oriented students, an interest in specializing significantly lowered the positive differentiation of their SVIB profiles. The effect of special interests on the SVIB profile thus depended to some extent upon the status aspirations of the subjects having these special interests. When the students were stratified according to the status of their interests, having specialized interests tended to lower their profiles, as measured by lesser LRS scores and greater RPS scores.

Summary

These are the major findings in this study, and they will be discussed more thoroughly in the next chapter.

1. The canonical correlation analyses of the two samples revealed

that seven cognitive-differentiation variables were not related as a group significantly to the four criterion measures as a group.

2. Both the canonical analyses and the moderator analyses indicated that Letter Range Score was better related to the predictor variables than Primary-Secondary Pattern Score and Total Standard Score. Rejection Pattern Score was almost as related as Letter Range Score. Further, the pattern of relationships among the criterion variables suggest that three factors of SVIB profile differentiation were present: a positive differentiation factor, a negative differentiation factor, and a general differentiation factor.

3. The intercorrelation matrices of the two samples failed to confirm any of the five main hypotheses, though the relation between Complexity of Verbal Apparatus and Primary-Secondary Pattern Score did weakly support Hypothesis 2.

4. Most of the original hypotheses were not supported by the moderator analyses. Again, Hypothesis 2 received some support, as well as Hypothesis 3a, though very weakly. Hypotheses 1, 3c, and 4 were contradicted by tendencies in directions opposite to those predicted. Hypotheses 3b, 3d, and 5 were neither supported nor contradicted by the moderator analyses.

5. Only three variables, Complexity of Verbal Apparatus, Occupational Level, and Specialization Level, were significantly cross-validated in the moderator analyses as predictors of positive SVIB profile differentation, but Field Independence, Conceptual Differentiation, Category Width, and Internal Control received some support in the analyses as predictors of positive differentiation. Significantly cross-validated as predictors of negative SVIB differentiation in the

moderator analyses were Field Independence, Complexity of Verbal Apparatus, Conservatism-Riskiness, and Specialization Level, while Internal Control and Dogmatism were mildly supported as predictors of negative differentiation. Complexity of Verbal Apparatus and Occupational Level tended to be predictors of the general differentiation factor in the SVIB profiles, but Specialization Level contradicted the general factor when it related instead to lower SVIB scale scores, i.e., lower LRS and higher RPS scores.

6. The variables included specifically for their hoped-for moderating effects did not function as effectively in moderating the cognitive-differentiation variables as did the cognitive-differentiation variables in moderating the effects of each other.

7. Possibly eight different patterns of results could be found in the moderator analyses, though they were not without contradictions. The patterns were:

    i. Specialization Level significantly predicted negative differentiation in two low cognitive-differentiation conditions and predicted less positive differentiation significantly in one low cognitive-differentiation condition. The conclusion that interest in occupational specializing led to lower occupational profiles especially among cognitively undifferentiated students was partially contradicted by the tendency for Specialization Level to predict negative differentiation in two different high cognitive-differentiation conditions.

    ii. High Complexity of Verbal Apparatus combined with Low Field Independence to significantly predict negative differentiation.

Yet another kind of high cognitive differentiation combined with a type of low cognitive differentiation to tend to predict negative SVIB differentiation: in the condition of High Verbal Equivalence Range, Internal Control correlated positively, yet non-significantly, with Rejection Pattern Score. In addition, two kinds of low differentiation tended to combine in predicting less positive SVIB differentiation, when Field Independence correlated negatively with Letter Range Score in the Low Complexity of Verbal Apparatus condition.

iii. Several kinds of cognitive differentiation tended to combine with other kinds of cognitive differentiation in predicting positive SVIB differentiation, negative SVIB differentiation, and general SVIB differentiation. This is contrary to the second pattern of results, but seems to incorporate the two exceptions to the first pattern of results. This pattern is the one most compatible with the general hypothesis of this study.

iv. Occupational Level tended to predict positive as well as general SVIB differentiation in several high cognitive-differentiation conditions.

v. Practically all of the medium conditions containing important relationships involved either Occupational Level or Specialization Level in relation to the criterion variables, almost to the exclusion of all other predictors.

vi. In the condition of High Test Anxiety, higher cognitive differentiation of some types tended to predict less positive SVIB differentiation and, in one case, more negative differentiation.

One exception to this generality existed in this condition when higher Category Width (lower cognitive differentiation) tended to predict both less positive differentiation and more negative differentiation.

vii. When the subjects were stratified according to their defensiveness (answering in socially desirable ways) the more non-risky conservatism they had, the less SVIB differentiation they produced.

viii. When the students were stratified according to the socio-economic status of their interests, the more they had specialized interests, the lower SVIB occupational scores they obtained.

8. The complete intercorrelation matrices of the samples taken as wholes revealed several significant relationships between the original predictor and moderator variables and the two SVIB non-occupational scales used in this study. Complexity of Verbal Apparatus correlated positively with Specialization Level. Occupational Level had three correlates, including Internal Control (positive), Category Width (positive), and Conservatism-Riskiness (negative).

CHAPTER IV

DISCUSSION

The results of this study can be grouped under two general headings. First, there are those results which followed from the direct investigation of the main hypothesis of this study and the five specific hypotheses generated by it. This hypothesis was that a lack of cognitive differentiation in an individual would impede his production of higher occupational scores on the SVIB, regardless of the particular occupational scales involved, by making him less capable of making the differential responses necessary to match an SVIB interest pattern. The less he preferred to make distinctions in his cognitive structures, the lower should be his SVIB occupational profile. Because of the assumed importance of motivational factors in patterning the differentiated interest elements, the expectation was that the correlations between cognitive differentiation and high occupational scores would not be large, but rather that middle-range, but statistically significant, correlations between the two would be found to exist.

The correlations which were intended to test this general hypothesis were drawn from the canonical analyses, the moderator analyses, and a small part of the intercorrelation-matrix analyses, all done upon the two samples created from a random division of the subjects used in this study. The second group of results from this study followed from the use of additional variables added for investigatory purposes, including Rejection Pattern Score and Specialization Level, and from the ease of obtaining complete intercorrelation matrices with the use of a computer. In addition, it was fairly simple with the use of the computer to elaborate the moderator analyses, so that, for the sake of completeness, it was possible to check not only how a specific cognitive predictor variable was moderated by the four motivational variables and by other cognitive variables, but also how the four moderator variables served as predictors when they were in turn moderated by the cognitive variables, when these latter were treated as moderator variables. With the exceptions of the predictions made by Occupational Level, the elaboration of the moderator analyses proved rather fruitless. However, the complete intercorrelation matrices of the two samples did turn up some rather interesting results regarding the two SVIB non-occupational scales which were included in this study. In addition, the intercorrelation matrices revealed important relationships among the different measures of the lack of SVIB profile height.

The first group of results, those involving the general hypothesis of the study, were generally disappointing. Among the unmoderated correlations between the cognitive variables and criterion variables in the two samples, only Complexity of Verbal Apparatus appeared to be related, though weakly, to some of the criterion variables--Primary-Secondary Pattern Score and Rejection Pattern Score. The canonical correlation analyses upheld the generally unrelated nature of the cognitive and criterion variables, though they too suggested the Complexity of Verbal Apparatus variable was the one most related to the criterion variables. It was hoped that the analysis of the cognitive-criterion relationships by means of moderator variables would reveal more significant relationships due to complex interactive effects, but this hope was not well fulfilled either. In these moderator analyses of the two samples, Complexity of Verbal Apparatus again played an important role in several patterns of trends, but these patterns seemed to be in part mutually contradictory. The detection of these patterns was considerably facilitated by the realization, from the canonical, intercorrelation, and moderator analyses, that it was likely that there were three different factors of profile differentiation among the four criterion variables.

Three of the criterion measures had been introduced in an effort to quantify as a variable the height of the SVIB profiles of individuals; they were different ways of summing the overall tendency of an individual to match the interest patterns of the various occupational standardization samples. The first, Primary-Secondary Pattern Score, was an attempt to make into a variable the characteristic of profiles which in past studies had been used to define criterion groups. This characteristic was the presence and absence of primary and secondary patterns. A typical procedure had been to select those students with no primary patterns and to test the differences between them and students having such primary patterns on a number of different personality characteristics, defined by such things as the MMPI, biographical questionnaires, EPPS, etc. Rather than testing differences between groups, this present study attempted to correlate personality variables with criterion variables based upon concepts similar to those which had been used to define criterion groups. Besides Primary-Secondary Pattern Score, two other variables, Letter Range Score and Total Standard Score, were invented as attempts to quantify the individual's tendency to have or not have high occupational-scale scores on the SVIB.

Another concept of importance had long been used in counseling with the SVIB, that of the rejection of occupations, which was the logical opposite of the primary pattern concept. Though rejection patterns had been defined in different ways, as had primary patterns, one definition was chosen which seemed to offer the most promise of being converted into a useful variable, and Rejection Pattern Score was thus created. Though the presence or absence of rejection patterns had apparently not been a problem to SVIB counselors and had evidently not been as systematically investigated as had the problem of the absence of primary patterns, it was hoped that some useful information could be gained from studying the way it interacted with the cognitive variables and with the first three criterion measures. Though, in a sense, Rejection Pattern Score could be thought of as measuring the absence of high occupational scores, it was not included in the five hypotheses because of the relative unclearness of the relationship of rejection patterns to the lack of primary patterns. That is, as pointed out in Chapter I, the study by Darley and Hagenah (1955) seemed to indicate that the presence of rejection patterns was associated not with the absence of primary patterns but rather with their presence. Primary and rejection patterns tended to go together, it appeared, making it difficult to predict whether the lack of cognitive differentiation would increase or decrease the number of occupational family rejections.

The results indicate that it was indeed fortunate that Rejection Pattern Score was included in the study for an investigation of its relation to both the main criterion variables and the cognitive predictor variables. As was discussed in Chapter III, Rejection Pattern Score was apparently as well related to the predictor variables as was the best of the three measures of positive profile height, Letter Range Score. Further, the intercorrelations of these four criterion variables appeared to explain the failure of Total Standard Score to relate to the predictors; Total Standard Score apparently confounded two factors in SVIB profile differentiation. These factors appeared to be positive differentiation of the profile, as measured best by Letter Range Score, and negative differentiation of the profile, as measured best by Rejection Pattern Score. That is, the predictor variables related best to that criterion variable, Letter Range Score, which had been unintentionally defined to be largely a measure of the extent to which the individual's occupational scale scores tended to be higher than the average scores on the different scales of the (second) group which Strong (1966) called men-in-general. Similarly, an unnoticed characteristic of Rejection Pattern Score when it was defined was that almost all of its variance was contributed by occupational scale scores which were lower than the average scores on the different scales of this men-in-general group. As was pointed out, Total Standard Score was defined as the total of all of the occupational scale scores, and this total thus included scores both above and below the average scores on the different scales produced by men-in-general.

The conclusion appears to be, then, that the kind of profile differentiation to which the predictor variables of this study could relate was not differentiation from the standard score of zero on each of the occupational scales, but rather from the average score on each scale produced by that men-in-general group which Strong used for validity purposes. It was beyond the scope of this present study to create new criterion variables which would represent more accurately the two kinds of profile differentiation, but it might help future research to use purer criterion measures of positive and negative profile differentiation. Such measures might be derived by subtracting the men-in-general averages from each of the respective scale scores which were higher than these averages and summing these differences for positive differentiation and by subtracting from the men-in-general averages the respective scores which were lower than the averages and summing these differences for negative differentiation.

The results also indicated that Primary-Secondary Pattern Score, which now seems to be a measure of extreme positive profile differentiation, did not relate well to the predictor variables. Why this happened is difficult to ascertain. Perhaps, though, the weighting of the number of primary and secondary patterns used to combine these into a variable was not optimum. Making, in effect, two secondary patterns equal to one primary pattern perhaps only obscured the more extreme tendencies toward positive differentiation. Other combinations of the totals of the two patterns or perhaps just ignoring the secondary patterns altogether might have produced a variable which functioned more effectively. On the other hand, it may be that cognitive differentiation has its main effect in the middle range of positive profile differentiation and that some other explanation is necessary to account for the boosting of occupational scale scores above this middle range.

The inclusion of Rejection Pattern Score in the study bore fruit also in suggesting that besides positive and negative differentiation factors in the spread of SVIB profiles there seems to be also a general differentiation factor. As the data of Darley and Hagenah's study suggested might happen, Rejection Pattern Score and Primary-Secondary

Pattern Score did have a significantly positive, though low, correlation. Thus, to some extent, the greater number of primary and secondary patterns a subject had, the greater number of reject patterns he also had. However, though a number of predictors tended to be related to either positive or negative differentiation, only Complexity of Verbal Apparatus exhibited much tendency to be related to the general differentiation factor--both in the samples as wholes and in three of the moderating conditions.

This analysis of the criterion-variable interrelationships helped to make clearer the patterns of results from the moderator analyses of the two samples. The probability of there being three factors of profile differentiation suggested that the original concern with high and low profiles was too simplistic. It seemed possible that not only might cognitive differentiation be related to higher profiles but also to some types of lower profiles. That is, if cognitive differentiation were important in providing the elements necessary for patterning of interests to match the occupational scale patterns better than men-in-general did, then perhaps cognitive differentiation would be of as much importance in providing patterns of interests which would mismatch the occupational scales worse than men-in-general did. Cognitive differentiation might allow the individual to have more rejection patterns as well as more primary patterns. Thus, in searching for generalities among the results of the moderator analyses, relationships involving rejection patterns, or negative differentiation, were looked for as well as relationships involving positive differentiation. The concept of SVIB profile differentiation was broadened to include negative differentiation as well as positive differentiation.

The moderator analyses appeared to offer fairly strong support only for Hypothesis 2, that Complexity of Verbal Apparatus would be positively correlated with positive profile differentiation. Complexity of Verbal Apparatus also had fairly strong positive correlations with negative profile differentiation and, in other moderator conditions, weaker correlations with general differentiation. With the exceptions of the curious interaction with Field Independence and the rather weak relationships in the condition of Low Social Desirability, the relationships between Complexity of Verbal Apparatus and profile differentiation appeared to be instances of the third generality of the results of the moderator analyses reported in the last chapter. That is, the relationships involving Complexity of Verbal Apparatus supported for the most part the pattern of types of cognitive differentiation correlating positively with profile differentiation in conditions of high cognitive differentiation of other types. Thus, in certain kinds of high cognitive differentiation conditions, the more these subjects were differentiated along other cognitive dimensions, the more differentiated an SVIB profile they tended to produce.

Hypotheses 3c and 4 were contradicted by the results of the moderator analyses, in that Conceptual Differentiation and Internal Control tended to be negatively related to positive profile differentiation in the condition of High Test Anxiety. However, these two results appeared to fit into a sixth generalization about the moderator analyses, which was that among highly test-anxious subjects cognitive differentiation appeared to be negatively related to higher SVIB scale scores (negatively related to positive differentiation and positively related to negative differentiation). The exception to this sixth generalization was the negative relation of Category Width to positive profile differentiation, but this latter finding was also weak support for Hypothesis 3a.

Hypothesis 1 also was contradicted by the negative correlation between Field Independence and positive profile differentiation in the Low Complexity of Verbal Apparatus condition. This finding was difficult to fit into any generalization about the moderator analyses results. However, Field Independence also appeared to depress negative differentiation in the condition of High Complexity of Verbal Apparatus, so that one could say that when the subjects were stratified according to their preferences for verbal complexity, the greater independence from the environment they had, the less profile differentiation they had. In addition, though, this latter significant finding was included in the second generalization about the analyses, that high scores on Complexity of Verbal Apparatus tended to combine with low scores on Field Independence to relate to greater negative profile differentiation.

It must be admitted here that the concept of field dependence-independence may not have received a fair test in the present study. As mentioned in Chapter II, the revision by Jennings (1968) of the Group Embedded Figures Test was used in this study to help cut down on the time requirements for giving the complete battery of tests used. Jennings did not report any unusual distribution of scores in using this revision, but in this present study a definite ceiling effect resulted from allowing sixteen minutes to complete the analysis of sixteen figures. A possibility of an unusual distribution of scores on this test was noted when the subjects were divided for the different moderating conditions, and therefore a frequency distribution table of the scores of the total 252 subjects was made. The scores appeared to be normally distributed, except for the piling up of subjects at the high end of the distribution, as Table 15 shows. Since Jennings used females in her study, it would appear that males are more adept at solving embedded-figure tasks than females. This distribution would not have deleterious effects on the use of Field Independence as a moderator variable, but it would probably interfere with the correlations of Field Independence with other variables.

TABLE 15

DISTRIBUTION OF SCORES OF 252 SUBJECTS
ON THE GROUP EMBEDDED FIGURES TEST

Number of Items Correct	Number of Subjects	Number of Items Correct	Number of Subjects
0	1	9	23
1	3	10	25
2	6	11	25
3	10	12	12
4	5	13	12
5	15	14	15
6	17	15	15
7	20	16	21
8	27		

The pattern among the results of the moderator analyses which supported most effectively the general hypothesis of this study was that found among several of the high cognitive-differentiation conditions. In the high conditions of Internal Control, Conceptual Differentiation, and Conceptual Compartmentalization, the more these subjects were cognitively differentiated along other dimensions, the more differentiated tended to be their SVIB profiles along the three dimensions of SVIB profile differentiation. The variables involved in these correlations were Complexity of Verbal Apparatus, Internal Control, Dogmatism, and Specialization Level, if the latter is included as a measure of some kind of cognitive differentiation. Though the correlations of only one of these relationships was cross-validated significantly (those between Complexity of Verbal Apparatus and PSPS in the High Internal Control condition), the accumulation of the trends among this variety of measures does offer some support to this general hypothesis. The suggestion seems to be, however, that cognitive differentiation is multi-dimensional and that these dimensions of cognitive differentiation are fairly independent of one another (witnessed by the paucity of significant correlations between the cognitive variables in the intercorrelation matrices). This pattern suggests that SVIB profile differentiation is affected by the accumulation of particular types of cognitive differentiation within an individual. The effects of cognitive variables on profile differentiation certainly appear to rely on fairly complex interactions among these variables.

Two of the other patterns among the moderator-analyses results appeared to be contradictory to this generalization. Though each pattern had only a few instances, each of these instances was cross-validated significantly. The first of these saw Specialization Level being related positively to negative differentiation and negatively to positive differentiation in three conditions of low cognitive differentiation, Low Field Independence, High Verbal Equivalence Range, and Low Complexity of Verbal Apparatus. In this pattern, then, Specialization Level appeared to be not so much related to profile differentiation as simply to lower SVIB scale scores, i.e., lower LRS scores and higher RPS scores (the higher RPS scores indicate lower occupational scale scores). However, the results of assuming a division of the SVIB profile sheet around the average scores of men-in-general are still important here, for the relation to lower LRS scores and the relation to higher RPS scores were in different moderating conditions. The simplest measure of overall high and low occupational scale scores was TSS, and in the three conditions containing significant correlations with either LRS or RPS there was no tendency for Specialization Level to also correlate with TSS. The only condition in which there was such a tendency for Specialization Level to relate simultaneously to LRS, TSS, and RPS was Medium Conceptual Compartmentalization, and these tendencies were very weak.

The part of this Specialization Level pattern which contradicted the pattern supporting the general hypothesis was the location of the Specialization Level-RPS relationship in the low cognitive-differentiation conditions of Low Field Independence and High Verbal Equivalence Range. Thus the significant cross-validation of the Specialization Level-RPS relationship took place in conditions of low cognitive differentiation, although the relationship also tended to exist in two conditions of high cognitive differentiation--High Conceptual Differentiation and High Internal Control--as pointed out above. In any case, the effect of Specialization Level on the SVIB profile was the tendency for specialized interests to lower occupational scale scores in the top half of the profile in some conditions and in the bottom half of the profile in other conditions.

The other pattern which was partially contradictory to the trend for two kinds of cognitive differentiation to interact in producing a more differentiated profile was the complimentary interaction of Complexity of Verbal Apparatus and Field Independence. When Complexity of

Verbal Apparatus served as a moderator variable, the students in the high condition exhibited a negative correlation between Field Independence and negative profile differentiation. When Field Independence served as a moderator variable, the subjects in the low condition exhibited a positive correlation between Complexity of Verbal Apparatus and negative profile differentiation. These significant correlations suggested there was a tendency for subjects who were both higher in Complexity of Verbal Apparatus and lower in Field Independence to be more rejecting of occupations than those in the opposite ends of these dimensions. Thus those subjects who can poorly differentiate themselves from their environments but who nevertheless prefer verbal complexity will pattern their occupational interests mainly in terms of answering occupational scale items more differently from the standardization-sample men than even men-in-general did.

This second patterned exception to the general hypothesis had some similarities to the first exception. In both exceptions the condition of Low Field Independence was involved. Further, the condition of High Verbal Equivalence Range involved in the first exception also contained a relationship similar to the second exception. That is, in the condition of High Verbal Equivalence Range, both Specialization Level and Internal Control were positively correlated with RPS. This positive correlation between Internal Control and RPS in a condition of low cognitive differentiation was similar to the positive correlation between Complexity of Verbal Apparatus and RPS in the low cognitive condition of Low Field Independence. Since neither Verbal Equivalence Range nor Field Independence were among the moderator variables involved in the pattern which supported the general hypothesis and both were involved in both exceptions to the general hypothesis, their moderating function was evidently along a different (cognitive?) dimension from that along which ran the moderator variables in the general hypothesis pattern. Why Internal Control, Conceptual Differentiation, and Conceptual Compartmentalization should have been the only moderator variables involved in the pattern supporting the general hypothesis, while Field Independence, Verbal Equivalence Range, and Complexity of Verbal Apparatus should have been the only moderator variables involved in the exceptions to this pattern, is difficult to understand. In each of these groups, none of the variables was particularly related to another, as the intercorrelation matrices revealed, except for Conceptual Compartmentalization and Conceptual Differentiation, the two measures drawn from the Object Sorting Test.

In summary of these three patterns, it appeared that increasing cognitive differentiation, as measured by several variables, especially Complexity of Verbal Apparatus, was linked with increasing profile differentiation in several kinds of high cognitive differentiation conditions. Though instances of the relation between Specialization Level and negative differentiation appeared to fit into this pattern, in other instances Specialization Level and negative differentiation were significantly correlated in conditions of low cognitive differentiation. The special complementary interaction between Complexity of Verbal Apparatus and Field Independence contained other exceptions to the first pattern. First, increasing cognitive differentiation as measured by Field Independence was associated with decreasing negative profile differentiation in a high cognitive-differentiation condition, High Complexity of Verbal Apparatus (Field Independence was also associated with decreasing positive profile differentiation in the Low Complexity of

Verbal Apparatus condition). Second, increasing cognitive differentiation as measured by Complexity of Verbal Apparatus was associated with increasing negative differentiation in a low cognitive-differentiation condition, Low Field Independence. This two-fold combination of high verbal complexity and low field independence relating to negative profile differentiation (occupational family rejection) thus contradicted the general hypothesis pattern mainly in the action of the variable Field Independence. Field Independence correlated in the "wrong" direction, and it was in the "wrong" condition of this variable in which the Complexity of Verbal Apparatus-RPS relationship was found.

In these two patterns of exceptions to the general hypothesis pattern there were instances of measures, which were supposedly of cognitive differentiation, being related negatively to positive differentiation. That is, both Field Independence and Specialization Level were negatively related to LRS in the Low Complexity of Verbal Apparatus condition. Although this was the only condition in the study in which Field Independence was related to LRS, there were other conditions in which Specialization Level was so related. One of these conditions was that of High Test Anxiety, where Specialization Level joined with two cognitive variables in forming the sixth general pattern in the moderator analyses results. In this condition, Conceptual Differentiation and Internal Control both tended to be negatively correlated with positive differentiation. Thus the more cognitively differentiated these highly anxious subjects (along the dimensions of Conceptual Differentiation, Internal Control, and Specialization Level), the less positively differentiated were their SVIB profiles. Among these anxious subjects, it was the less conceptually differentiated, the less specialized, and those with less feeling of control over reinforcements who tended to have more positively differentiated profiles. In addition, those who tended to be less differentiated as measured by Category Width tended to have more negative differentiation (Category Width was positively correlated with RPS). However, two measures of cognitive differentiation in this condition predicted more profile differentiation, rather than less. Those with broader categories (and thus less differentiated categories) tended to have lower LRS scores, and those with more dogmatism (and thus less differentiated beliefs) tended to have lower RPS scores. Or, more differentiated categories were associated with higher LRS scores, or greater positive profile differentiation, while more differentiated beliefs were associated with higher RPS scores, or greater negative profile differentiation. Thus the effect of test anxiety on these relationships was mixed. In two cases, having high anxiety allowed a type of cognitive differentiation to predict more profile differentiation, but in most cases high anxiety reversed the relationship, allowing more cognitive differentiation to predict less profile differentiation.

Before drawing a conclusion from these contradictions to the general hypothesis, it should also be noted that another location of a significantly cross-validated Specialization Level-LRS relationship was in the Low Occupational Level condition. Among these subjects with low occupational-status interests, an interest in occupational specializing was associated with less positive differentiation. The pattern is formed, then, of differentiation due to both special interests and various cognitive styles leading to less profile differentiation primarily in the conditions of Low Complexity of Verbal Apparatus, High Test Anxiety, and Low Occupational Level. In these conditions, all of which seem to be rather undesirable from the viewpoint of "trying to get ahead in our society," it appears that greater cognitive differentiation makes it more difficult for an individual to pattern his interests in a way which would differentiate him from men-in-general than it does for an individual with less cognitive differentiation. Perhaps increasing differentiation in highly anxious subjects and in those who would prefer less verbal differentiation only makes it more difficult to pattern the increasing number of differentiated elements. Differentiation here may lead only to more confusion rather than patterns.

The fourth generalization about the moderator-analyses results concerned Occupational Level, one of the two SVIB non-occupational scales included in this study. This generalization was that in some conditions of high cognitive differentiation Occupational Level tended to correlate positively with positive profile differentiation. In the intercorrelation matrices Occupational Level had tended to predict only PSPS and LRS, and in the moderator analyses it tended to relate to RPS in only one special moderating condition. That is, in High Conceptual Compartmentalization, Occupational Level joined Complexity of Verbal Apparatus in tending to predict general differentiation (both positive and negative differentiation). Though several of the instances of Occupational Level-positive profile differentiation relationships were in medium conditions (this was the fifth generalization of the results), there was no tendency at all for these relationships to occur in conditions of low cognitive differentiation. Further, in some of the high differentiation conditions of the fourth generalization, Occupational Level alone tended to predict positive differentiation. These conditions were High Field Independence, Medium and Low Category Width. In these conditions of different types of medium to high cognitive differentiation, the higher the status of the occupational interests of the individual, the more positively differentiated was his SVIB profile. It may be that with cognitive differentiation providing the discriminated elements, the status interests tended to provide the motivation to pattern these elements to match more of the patterns of these relatively high status occupations which are on the SVIB. The fact that Occupational Level related to positive profile differentiation in so many medium conditions may mean that there is some optimal amount of some kinds of differentiation which enables status interests to pattern the differentiated interest elements. If, in addition, one includes the relationship between Occupational Level and LRS in the conditions of Low Social Desirability (low defensiveness) and Low to Medium Test Anxiety, then all of the various high and low conditions in which Occupational Level related to LRS appear to be conditions which are desirable for "getting ahead" in the world of work.

Mention should also be made of the interaction of the two SVIB non-occupational scales in this study. Occupational Level served as an effective moderator variable only for Specialization Level. When the subjects were divided according to their Occupational Level scores, those with higher Specialization Level scores again tended to have lower occupational scale scores. However, different halves of the profile were affected by Specialization Level according to whether the subjects were those with high status aspirations or with low status aspirations. The lower half of the profile was involved in those students with higher status interests; the more specialized the interests of the subjects in the High Occupational Level condition, the more reject patterns they displayed on their profiles. However, among those students with lower status interests, interest in specializing was related only to less positive differentiation. Thus when the subjects were stratified according to the status of their interests, specializers obtained lower occupational scale scores than did generalizers--this was the eighth generalization from the moderator analyses results.

The seventh generalization had to do with the use of Social Desirability as a moderator variable. It was the low condition of this variable which had the best moderating function, but the high condition did moderate a significant relationship between Conservatism-Riskiness and RPS. The use of Social Desirability as a moderator variable theoretically grouped the subjects according to their defensiveness (Jacobson & Ford, 1966), and it was only when the subjects were so grouped that Conservatism-Riskiness predicted any aspect of profile differentiation. The more risky the highly defensive subjects were, the more occupational families they rejected; thus the conservative defensive students tended to have less negative differentiation. With the non-defensive students, however, riskiness tended to be associated with more primary and secondary patterns, while conservatism was associated with less positive profile differentiation. Thus stratifying the subjects according to their defensiveness revealed the tendency for conservatism to reduce profile differentiation.

There were also moderate relationships between Complexity of Verbal Apparatus and general profile differentiation and between Occupational Level and positive profile differentiation in the condition of Low Social Desirability. Thus two of the more important relationships in this study appeared among the non-defensive subjects. Despite its fair success as a moderator variable, Social Desirability did not function at all as a predictor. In addition, the only variable it tended to relate to at all in the intercorrelation matrices of the two samples as wholes was Dogmatism, and these correlations were only .15 and .24 ($p < .05$), initial and cross-validation samples respectively. Thus, contrary to the findings of many other studies, very little of the variance in the relationships in this study could be attributed to a set to respond in socially desirable ways. This may be because it is difficult to specify a socially desirable response to cognitive style tests. Incidently, the small correlations (.02 and -.02) between Social Desirability and Internal Control failed to replicate the correlations of around -.30 which Rotter (1966) found in several studies.

In both the intercorrelation matrices and the moderator analyses, the three predictors which stood out from all the rest were Complexity of Verbal Apparatus, Occupational Level, and Specialization Level. The patterns of relationships involving these three produced some interesting results. Though all three tended to be intercorrelated, they related differently to the three kinds of profile differentiation. Occupational Level predicted only positive differentiation, while Specialization Level, though it had some negative relationships with positive differentiation, predicted best negative differentiation. Complexity of Verbal Apparatus, though related best to Specialization Level, tended to predict general differentiation, the combination of positive and negative differentiation. Further, though Specialization Level correlated positively with Complexity of Verbal Apparatus, and though Complexity of Verbal Apparatus correlated positively with positive profile differentiation, Specialization Level tended to correlate negatively with positive profile differentiation. Thus despite its high correlation with Complexity of Verbal Apparatus, Specialization Level tended to act independently in predicting lower occupational-scale scores, measured both by less positive differentiation and by more negative differentiation. However, Specialization Level's main relationship was with negative profile differentiation.

The correlations in the two samples between Specialization Level and Complexity of Verbal Apparatus are very similar to correlations found by Stewart (1964) in a sample of 91 freshmen men at the University of California. Stewart published correlations between Specialization Level and all of the scales of the Omnibus Personality Inventory (OPI) and the Allport-Vernon-Lindzey Study of Values (AVL). One of the scales of the OPI is called the Complexity of Outlook Scale, which is the same scale, by Barron (1953), used in this study to form part of the Complexity of Verbal Apparatus scale. Stewart reported a correlation of .32 ($p < .01$) between the Complexity of Outlook Scale and Specialization Level, which is slightly lower than the correlations of .42 and .39 (both $p < .01$) between Complexity of Verbal Apparatus and Specialization Level found in this study.

Stewart summarized the pattern of correlations between Specialization Level and the various scales of the OPI and AVL in this way:

> . . . Subjects with high SL scores tend to like reflective thought of an abstract nature and appear not to be dominated by generally accepted ideas. They are inclined to be independent, critical, liberal, democratic in outlook, creative, flexible, somewhat unconventional, receptive to new ideas, and tolerant of ambiguity. At the same time they might be described as impulsive, erratic, aggressive, impatient, and rebellious. One would expect individuals with high SL scores to be relatively free of cynicism about people, and somewhat liberal in their religious beliefs. Subjects with low SL scores are susceptible to ideas associated with overt action, and to ideas generally accepted in the dominant culture. Also, those with low SL scores tend to be conforming, compliant,

> accepting of authority and tradition, somewhat rigid, relatively fearful and dependent, responsible, cautious and dutiful. (Stewart, 1964, p. 871)

This description seems to be compatible with the tendency toward a negative correlation found in this study between Specialization Level and Dogmatism and the tendency toward a positive correlation between Specialization Level and Internal Control. This latter trend was in contradiction to a study by Zytowski (1967) which produced a correlation of .02 between Internal Control and Specialization Level.

Stewart also illustrated the difficulty in trying to make a "logical analysis" of the SVIB scales by examining the content of their items. Following the suggestion that the specialist is one who wants to narrow his vocational pursuits, he analyzed the Specialization Level scale from the viewpoint of the differences in the number of Like and Dislike responses required to make the highest and lowest scores on the scale. The specialist end of the scale turned out to require many more Like answers and fewer Dislike answers than the generalist end. "Thus, the specialist would appear to be an individual with a large number of likes and a relatively small number of dislikes when compared to the generalist" (Stewart, 1964, p. 868). Among these "likes" were preferences for verbal-linguistic and scientific activities. The specialist items also included "likes" for activities such as carpentry, watchmaking, and mechanics, so Stewart called the specialists "gadgeteers." He also concluded from the analysis of the items that specialists like to help people, but outside of intensely personal relationships; they prefer instead to teach or direct them. The specialist items also included preferences for new or novel experiences.

The interesting point in this is that by answering more items with Like (from the response analysis) the specialists end up categorizing themselves as being critical, not dominated by generally accepted ideas, etc. (from the OPI and AVL correlations), while the generalists, who get into that category by having a lot of Dislike responses on the SL scale, are susceptible to ideas generally accepted in the dominant culture, are conforming, compliant, etc., according to the OPI and AVL correlations. On the Specialization Level scale, an answer of Like is a critical response, while an answer of Dislike is a conforming response!

The correlation in the present study of Specialization Level with negative differentiation adds another element to the picture. Those who tended to answer Like on this scale and who thus tended to have higher Specialization Level scores, also tended to have more occupational family rejections on the SVIB. And those who tended to answer Dislike on this scale tended to have occupational scale scores more like those of men-in-general. This was a general trend among all the subjects as a group, but, from the moderator analyses, it appeared to be especially true of those subjects who stressed equivalencies among words (High Verbal Equivalence Range) and those who had poor ability to separate a figure hidden in a complex pattern (Low Field Independence). So it was especially among these kind of undifferentiated students that answering Like on the Specialization Level scale correlated with the rejection of occupations in a more patterned way than did men-in-general. However, among the students who were low in Complexity of Verbal Apparatus and low in Occupational Level the tendency was for Specialization Level to correlate negatively with Letter Range Score. Here the tendency to answer Like on this scale produced profiles closer to the men-in-general averages than did the tendency to answer Dislike. The result on the profile of answering Like on the Specialization Level scale was therefore moderated by the presence of different kinds of cognitive undifferentiation.

The other SVIB non-occupation scale used in this study, Occupational Level, tended to relate only to positive profile differentiation. The correlations between Occupational Level and PSPS and LRS in the two samples as wholes were only low trends, but in three moderating conditions correlations between Occupational Level and a measure of positive profile differentiation were cross-validated significantly. In all these the trend was definitely toward a positive correlation between Occupational Level and profile height, a finding which was contrary to that of Crites (1960). Crites had earlier (Crites, 1957) created a measure similar to PSPS in this study by simply totaling the number of A and B+ scores on each profile. The correlations in his different groups in the second study between Occupational Level and "Interest Patterning" ranged around -.30. He felt this was supported by common counseling experience with subjects who have high occupational interest levels, but whose vague goals of being in some profession which they cannot specify are echoed by low SVIB interest patterning. It is difficult to explain Crites' finding, for the results of the present study seem to be more in line with what one would expect, despite common counseling experience with a certain type of student. It seems reasonable that the more primary patterns (or A's) a person has, the more his interests are those of men in higher socio-economic level occupations. That is, most of the occupations on the SVIB are the "professions," and it would appear that the more of these occupations that the individual's interests match, the higher should be that score which measures the match between the person's interests and those of men in the higher socio-economic positions. This is similar to the line of reasoning Zytowski (1965) made in predicting that when a group of students with no primary patterns were to be compared with a group having one or more primary patterns one should expect the no-primary pattern group to have lower Occupational Level scores. However, Zytowski failed to find any significant difference between his groups on this score.

A large amount of research has been done on the Occupational Level scale, most of it trying to test Strong's hypothesis that Occupational Level is a measure of drive (Carkhuff & Drasgow, 1963). The drive hypothesis now appears to be fairly well abandoned, and the new SVIB manual accepts the conclusion of Carkhuff and Drasgow that this scale simply measures the amount of agreement between an individual's interests and the interests of men in the different socio-economic levels of occupations. Evidently not a great deal has been done in correlating this scale with other personality variables.

In this study Occupational Level correlated significantly with Internal Control (positive correlation) and with Conservatism-Riskiness (negative correlation). In addition there were tendencies toward positive correlations with Complexity of Verbal Apparatus and Category Width. Comparisons with these findings from other studies were found only for Internal Control. Zytowski's 1967 study reported a correlation between Occupational Level and the I-E scale scored for external beliefs of .07 (scoring the scale for internal belief, as was done in the present study, would make the correlation -.07). It seems reasonable, however, that a belief in one's control of one's life would be associated with interests compatible with men in professions where much more control can be realistically asserted than in lower socio-economic positions. The higher level positions do have more responsibility and their decisions do have greater effect. The positive correlations in this study between Internal Control and Occupational Level thus seem to be reasonable.

The correlations involving Complexity of Verbal Apparatus and Category Width are not quite so amenable to ad hoc explanations. The correlations suggest that higher level interests are associated with preferences for verbal complexity and with the use of broader quantative categories. It may be that Occupational Level was relating to whatever Category Width and Complexity of Verbal Apparatus have in common, for these two variables were also correlated significantly in this study. Pettigrew's (1958) original article on the Category Width scale suggested the possibility that it could be related to risk-taking behavior. Though he had no evidence for his hypothesis, he suggested that broad categorizers would have a tolerance for Type I errors, because they risk negative instances in an effort to include a maximum of positive instances. Similarly, narrow categorizers would have a tolerance for Type II errors, by excluding many positive instances in order to minimize the number of negative instances. This hypothesis suggests the possibility of a U-shaped relationship between a measure of risk-taking and Category Width. Those with either very narrow categories or very broad categories might be more willing to take risks than those with middle-range categories. This study included a measure of risk-taking, Conservatism-Riskiness, and its correlations with Category Width in the two samples were contradictory (-.17, $p < .05$ and .11), leaving one to conclude, perhaps, that the correlation is essentially zero, as a U-shaped distribution might produce. That there might be some relationship between risk-taking and Category Width is suggested by the fact that both Category Width and Conservatism-Riskiness correlated with both Complexity of Verbal Apparatus and Occupational Level. Some kind of interaction was also suggested by the appearance of fairly strong Occupational Level-LRS correlations in the medium conditions of Category Width and Conservatism-Riskiness. The trends for riskiness and the use of broader categories to be associated with verbal complexity and higher-level occupational interests may suggest that it is those subjects who are willing to take the risks incurred by Type I errors who have more preferences for verbal complexity and who have more interests in higher occupational-level activities. Further research might explicate these relationships more clearly.

The correlations involving Conservatism-Riskiness and Occupational Level by themselves suggest that interests compatible with higher socio-economic occupations are associated with greater willingness to take risks. This too seems reasonable, in that men in higher level occupations do tend to have the responsibility for making more risk-laden decisions. Perhaps one of the elements in keeping a person's occupational interests low is his unwillingness to take on the responsibility of making risky decisions which are attendant with higher level jobs.

It seems apparent from the low correlations and partially contradictory patterns that the attempt to relate cognitive differentiation to SVIB profile differentiation was not extremely successful. Of the three best correlates of profile differentiation, only one was a cognitive-differentiation variable, with the other two being SVIB non-occupational variables. Moreover, it is possible that the correlations involving Complexity of Verbal Apparatus do not support the general hypothesis of this study. Bieri (1961) has argued that the Barron-Welsh Art Scale (which led to Barron's Complexity-Simplicity Scale, which in turn formed half of the Complexity of Verbal Apparatus scale) is a measure of preference for complexity rather than of the ability to be complex. Complexity of Verbal Apparatus, then, is a measure that does not directly measure cognitive differentiation, but rather it taps the person's attitudes toward a variety of things which could complicate or simplify his life. It is assumed that those who do not like complicating factors do so because they do not have the cognitive differentiation necessary to handle complexly interrelated factors. Thus, rather than measuring cognitive differentiation from a style of response, as does Field Independence or Verbal Equivalence Range, Complexity of Verbal Apparatus attempts to measure cognitive differentiation from the effects it should have on the attitude system of the individual. Bieri pointed out that this preferential behavior is probably a function of both cognitive structures and motivational dispositions, and it is presently difficult to separate the roles these two aspects of personality play in determining the final score on the preference scale.

This line of reasoning, however, is similar to what was argued earlier in this paper about the determination of responses to the SVIB. It was felt that both cognitive-differentiation variables and motivational variables would be important in producing interest patterns which would match the patterns of interests of the occupational-scale standardization samples. It may be that Complexity of Verbal Apparatus related as well as it did to SVIB measures because both kinds of measures are tapping the same aspect of personality, the attitude system (cf. Messick, 1961). The patterns of intercorrelations reported in Table 11 appear to support this interpretation, for most of the intercorrelations involved preference-type scales rather than scales based on ability (Field Independence) or on response styles (Category Width, Verbal Equivalence Range, Conceptual Differentiation, and Conceptual Compartmentalization). That is, most of the important correlations in the two samples as wholes were among Complexity of Verbal Apparatus, Internal Control, Dogmatism, and the SVIB measures. The exceptions to this generalization were the relations between Complexity of Verbal Apparatus and Category Width, Category Width and Occupational Level, and possibly Verbal Equivalence Range and Complexity of Verbal Apparatus. The significant correlations between Conservatism-Riskiness and Occupational Level and Complexity of Verbal Apparatus also appear to belong to a category different from preferences or attitudes. In any case, Complexity of Verbal Apparatus, Internal Control, and Dogmatism appear to be getting at cognitive structures through the measuring of attitudes rather than the measuring of a cognitive function directly, and, as such, they bear a more direct affinity to the SVIB than do the other measures of cognitive differentiation. The positive but small correlations between Category Width and Complexity of Verbal Apparatus, Field Independence, and Occupational Level may be suggestive of some common cognitive dimension underlying these different types of measures, but if they do represent such a dimension, then the relationship is opposite to what was hypothesized among these variables. It was hypothesized that complex and field-independent persons should have narrower categories rather than broader categories. The reason for this opposite direction awaits further research.

Despite these problems, it seems safe to say that cognitive differentiation has some small relationship with SVIB profile differentiation. This relationship is complex, because, for one thing, cognitive differentiation does not appear to be unidimensional, and scores on the various dimensions are evidently not always correlated. Furthermore, the relation of these dimensions to profile differentiation appears to be moderated by other dimensions and by other variables. Those students located at the high end of some dimensions of cognitive differentiation exhibited positive relationships between other dimensions of differentiation and profile differentiation. There were cases, however, where it was the students at the low end of cognitive-differentiation dimensions who exhibited this relationship. In most of these latter cases the type of profile differentiation involved was negative differentiation, so that these students poorly differentiated along one dimension used other types of cognitive differentiation mainly to pattern their rejections rather than their acceptances. In still other cases on other cognitive dimensions, cognitive differentiation appeared to be negatively related to profile differentiation. However, most of the moderating conditions in which this reversal of the general hypothesis took place were "undesirable" conditions, conditions of low cognitive differentiation, high anxiety, or low-status occupational interests.

Though the majority of the correlations in this study were low, some tentative conclusions can be drawn which have some importance for counseling and for future research on the SVIB. This study reinforces the suggestions of various workers in vocational counseling that the pattern of occupational rejections on a profile are a meaningful source of information about the student. The Rejection Pattern Score of this study related as well as, or better than, the other criterion variables to the various predictor variables. Very low scores on the SVIB occupational scales appear to be as well the result of patterning of interests as very high scores, because rejection patterns are positively correlated with primary patterns. If a student goes against this correlation by having very few A scores but an abundance of low C scores, then the counselor may be well advised to explore with the student the possibility of strong interests in an occupation not tapped by the SVIB. Further, the counselor should perhaps pay special attention to the rejected occupations of students with high Specialization Level scores, for rejections under such conditions may be clearer indications of vocations to avoid.

The positive correlation between rejection patterns and primary patterns may also indicate that studies trying to find differences between students with and without primary patterns may have included in the non-primary group students with fairly differentiated vocational interests. That is, if the lack of primary patterns on a strong rejection-pattern profile is a diagnostic sign of the hypothesized group of students who have strong interests in occupations which are not on the SVIB, then defining criterion groups only by the exclusion of primary patterns may allow students with fairly defined vocational interests to still be included in the no-primary group. Therefore, if one is to use the design of comparing criterion groups, then one should define the low interest group as having no, or few, rejection patterns as well as no primary patterns. Of course, the way one chose to define a rejection pattern would determine the stringency of this criterion (Cf. Chapter II).

The suggestion from this study that there are three different factors of profile differentiation also needs further confirmation. Apparently no other studies have suggested that the differences of an individual's occupation scores from the average scores of men-in-general have important psychometric characteristics. It may be that the many studies which attempt simply to correlate the scales's standard scores with various variables would turn up stronger relationships if the relative standard scores above and below the men-in-general averages were used.

The confirmation of a relationship between Specialization Level and a variable based partly upon Barron's Complexity-Simplicity scale also suggests the need for further investigation. Since Barron's scale was derived from correlations between his Independence of Judgment scale and the Barron and Welsh Art Preference scale, further information about the Specialization Level scale may be derived from studying its relationship to these two instruments. Similarly, the relationship between Occupational Level and risk-taking found in this study suggests investigating the relationship of other measures of risk-taking to Occupational Level. The fact that those who preferred complexity also preferred to take risks should be checked out with perhaps the Art Preference scale and other measures of risk-taking.

CHAPTER V

SUMMARY

A persisting problem in relation to the Strong Vocational Interest Blank has been those students whose interests match few if any of the interest patterns of the different occupational scales of this instrument. In an effort to help counselors deal with these students who seem to have no occupational interests, several studies have attempted to find differences on a variety of measures between groups of individuals with no primary patterns or no A scores and other individuals with such primary patterns. These studies have for the most part uncovered few differences between such individuals.

Some of the difficulties in such studies have been inconsistent definitions for the no-interest groups as well as the not too frequent occurrence of profiles with no manifest high occupational interests. This study attempted to overcome these problems by defining three different variables intended to measure the gross amount of occupational interest displayed on the profile sheets. The use of variables rather than criterion groups allowed the use of all the subjects in a sample of college males, while the use of three different criterion variables permitted some evaluation as to the most effective way of defining the overall relative presence or absence of occupational interests on the SVIB. Thus, instead of attempting to determine differences between groups, this study attempted to account for the variability in the relative absence or presence of so-called high or intense occupational interests. A fourth criterion variable which quantified rejection patterns was added for investigatory purposes.

Among the different aspects of personality which have been measured in attempts to account for lack of interests have been psychopathology (as measured by the MMPI), needs (as measured by the EPPS), personal history (as measured by questionnaires), etc. No studies were yet attempted in which the relation of lack of interests to cognitive variables was investigated. From an analysis of the behavioral requirements of scoring high on any particular occupational scale, it was hypothesized that a particular set of cognitive variables may have some relation to patterning of interests. In general, it was hypothesized that subjects who are not sufficiently cognitively differentiated will not be capable of systematically making the distinctions among the interest items on the SVIB as well as did the men in the various standardization samples. That is, in order to pattern one's interests, one must have the necessary differentiated interest elements which can be capable of being patterned. In this analysis, it was assumed that given the necessary differentiated interest elements, the determination of the particular high and low occupational scales would be due to motivational, as well as cognitive, aspects of the personality. Since the concern of this study was not with which particular scales were high and low but with the tendency to have high or low scales of any sort, the motivational aspects were ignored.

Because this study was of a preliminary survey type, it was important that the instruments used to measure cognitive differentiation be capable of group administration. These instruments were the Group

Embedded Figures Test, a Complexity of Verbal Apparatus scale from the combination of Barron's Complexity-Simplicity scale and Budner's Tolerance of Ambiguity scale, the Group Object Sorting Test from which were derived measures of Conceptual Differentiation and Conceptual Compartmentalization, Fillenbaum's Verbal Equivalence Range, Pettigrew's Category Width scale, Rotter's Internal-External Control scale, and Rorkeach's Dogmatism scale. Evidence was introduced from different studies which suggested how each of these instruments were related to cognitive differentiation.

In addition to the use of criterion variables rather than criterion groups, the design of the study included the division of the subjects into two samples, one of which served as a cross-validation sample. Besides the usual cross-product correlations, analyses on the data included canonical correlational analysis and moderator analysis. In addition to testing the moderating interactive effects of the cognitive variables upon each other, four additional variables were included in the study specifically for hoped-for moderator effects. These variables were taken from Kogan and Wallach's Choice Dilemmas Procedure, Alpert and Haber's Test Anxiety scale, Crowne and Marlowe's Social Desirability scale, and the Occupational Level scale of the SVIB. The relationship to the variables of another SVIB non-occupational scale, Specialization Level, was also investigated in some of the analyses.

The subjects were 252 male students at the University of Florida, approximately half of whom took part for class credit and half of whom were recruited through offers of payment. The total group was randomly divided into samples of 150 and 102, each of which contained representative numbers of paid and non-paid subjects. Test feedback was offered to all subjects prior to testing to enhance their motivation.

All of the main analyses were performed on each of the samples individually, and only those significant results of the initial-sample analysis which found strong support in the cross-validation sample were considered for discussion. Canonical correlation analyses were used to test the overall relationship between the cognitive-differentiation variables and the criterion variables as well as to indicate which of the criterion variables had the largest weight in this relationship. The intercorrelation matrices were used to test the five main hypotheses as well as to explore non-hypothesized relationships among the variables. The moderator analyses were used to check for interactive effects of the cognitive and moderator variables on the criterion variables.

The results of these analyses can be summarized as the following:

1. The canonical correlation analyses of the two samples could not produce correlates which significantly related the cognitive differentiation variables to the four criterion measures.

2. Both the canonical analyses and the moderator analyses indicated that two of the criterion variables were much better related to the predictor variables than the other two. One of these was Rejection Pattern Score, derived by simply totaling the number of reject patterns (as defined by Stephenson's rules) on a profile sheet. The other was Letter Range Score, which was the sum of the number of points on a profile sheet obtained by assigning a 1 to each _C_+ score, a 2 to each _B_- score, etc., up to a 5 for each _A_ score. The two poorest criterion variables were Total Standard Score, derived by summing the standard scores on each occupational scale, and Primary-Secondary Pattern Score. The latter was derived by counting the number of primary patterns (as

defined by the rules of Korn and Parker), multiplying this sum by two, and adding to this product the number of secondary patterns. The pattern of relationships among the criterion variables in the intercorrelation matrices suggested that three factors of SVIB profile differentiation were present: a positive differentiation factor representing occupational scale scores above the averages of men-in-general on each of the scales, a negative differentiation factor representing scale scores below these averages, and a general differentiation factor representing the small positive correlation between the positive and negative factors.

3. The general hypothesis that cognitive differentiation would be positively related to profile differentiation was not supported by the intercorrelation matrices, though the correlations between Complexity of Verbal Apparatus and Primary-Secondary Pattern Score did offer some weak support.

4. The results of the moderator analyses of the two samples revealed that the best predictors of profile differentiation were Complexity of Verbal Apparatus, Specialization Level, and Occupational Level. Complexity of Verbal Apparatus tended to predict all three factors of profile differentiation in differing moderating conditions, while Specialization Level tended to predict negative differentiation best, and Occupational Level, positive differentiation best. These predictions were all by means of positive correlations.

5. The results of the moderator analyses tended to arrange themselves in eight different patterns, the most important of which can be summarized as follows. Subjects located at the high end of some dimensions of cognitive differentiation exhibited positive relationships

between other dimensions of differentiation and profile differentiation. In other cases, it was the subjects at the low end of cognitive-differentiation dimensions who exhibited this relationship. In most of these cases the type of profile differentiation involved was negative differentiation, so that these types of subjects poorly differentiated along one dimension used other types of cognitive differentiation to pattern their occupational rejections, rather than their acceptances. In still other cases, on other cognitive dimensions, cognitive differentiation appeared to be negatively related to profile differentiation. However, most of the moderating conditions in which this reversal of the general hypothesis took place were "undesirable" conditions, conditions of low cognitive differentiation, high anxiety, or low-status occupational interests.

6. The complete intercorrelation matrices of the two samples revealed several significant relationships involving the two SVIB non-occupational scales used in this study. Specialization Level correlated positively with Complexity of Verbal Apparatus. Occupational Level correlated positively with Internal Control and Category Width and negatively with Conservatism-Riskiness.

Recommendations for counseling and research included taking into account the possibility that profiles with no primary patterns and with several rejection patterns indicate crystallized occupational interests in occupations not represented on the SVIB. Further research should also consider using SVIB scores representing the differences above and below the averages of men-in-general on each of the scales. Fruitful knowledge about the Specialization Level scale may be gained from investigating its relationship to the measures from which Complexity of Verbal Apparatus was derived.

REFERENCES

Alpert, R., & Haber, R. N. Anxiety in academic achievement situations. Journal of Abnormal and Social Psychology, 1960, 61, 207-215.

Anker, J. M., Townsend, J. C., & O'Connor, J. P. A multivariate analysis of decision making and related measures. Journal of Psychology, 1963, 55, 211-221.

Armatas, J. P., & Collister, E. G. Personality correlates of SVIB patterns. Journal of Counseling Psychology, 1962, 9, 149-154.

Athelstan, G. T. An exploratory investigation of response patterns associated with low profiles on the Strong Vocational Interest Blank For Men. (Doctoral dissertation, University of Minnesota, 1966) Ann Arbor, Mich.: University Microfilms, 1967. No. 67-7696.

Barron, F. Complexity-simplicity as a personality dimension. Journal of Abnormal and Social Psychology, 1953, 48, 163-172.

Barron, F., & Welsh, G. S. Artistic perceptions as a factor in personality style: Its measurement by a figure-preference test. Journal of Psychology, 1952, 33, 199-203.

Berdie, R. F. Likes, dislikes, and vocational interests. Journal of Applied Psychology, 1943, 27, 180-189.

Berdie, R. F. Range of interests. Journal of Applied Psychology, 1945, 29, 268-281.

Berdie, R. F. Range of interests and psychopathology. Journal of Clinical Psychology, 1946, 2, 161-166.

Berkowitz, L. Leveling tendencies and the complexity-simplicity dimension. Journal of Personality, 1957, 25, 743-751.

Bernstein, A. J. Absence of primary interest patterns in adolescent boys. Doctoral dissertation, Columbia University, 1953. Dissertation Abstracts, 1954, 14, 181.

Bieri, J. Cognitive complexity-simplicity and predictive behavior. Journal of Abnormal and Social Psychology, 1955, 51, 263-268.

Bieri, J. Complexity-simplicity as a personality variable in cognitive and preferential behavior. In D. W. Fiske and S. R. Maddi (Eds.), Functions of varied experience. Homewood, Ill.: Dorsey, 1961. Pp. 355-379.

Breger, L. Further studies of the social desirability scale. *Journal of Consulting Psychology*, 1966, *30*, 281.

Bruner, J. S. On perceptual readiness. *Psychological Review*, 1957, *64*, 123-152.

Budner, S. Intolerance of ambiguity as a personality variable. *Journal of Personality*, 1962, *30*, 29-50.

Burnstein, E. Fear of failure, achievement motivation, and aspiring to prestigeful occupations. *Journal of Abnormal and Social Psychology*, 1963, *67*, 189-193.

Carkhuff, R. R., & Drasgow, J. The confusing literature on the OL scale of the SVIB. *Journal of Counseling Psychology*, 1963, *10*, 283-288.

Christie, R., & Lindauer, F. Personality structure. *Annual Review of Psychology*, 1963, *14*, 201-230.

Chung, Won-Shik. *Relationships among measures of cognitive style, vocational preferences, and vocational identification.* (Doctoral dissertation, George Peabody College for Teachers, 1966) Ann Arbor, Mich.: University Microfilms, 1967. No. 67-3611.

Clayton, M., & Jackson, D. N. Equivalence range, acquiescence, and overgeneralization. *Educational and Psychological Measurement*, 1961, *21*, 371-382.

Cohen, J. The statistical power of abnormal-social psychological research: A review. *Journal of Abnormal and Social Psychology*, 1962, *65*, 145-153.

Cooley, W. W., & Lohnes, P. R. *Multivariate procedures for the behavioral sciences.* New York: Wiley, 1962.

Cooper, A. C. A study of the group scales of the Strong Vocational Interest Blank as predictors of academic achievement and of the relationship of the group scales to primary interest patterns. Doctoral dissertation, Columbia University, 1954. *Dissertation Abstracts*, 1954, *14*, 1176.

Crites, J. O. *Ability and adjustment as determinants of vocational interest patterning in late adolescence.* (Doctoral dissertation, Columbia University, 1957) Ann Arbor, Mich.: University Microfilms, 1957. No. 57-2563.

Crites, J. O. Ego-strength in relation to vocational interest development. *Journal of Counseling Psychology*, 1960, *7*, 137-143.

Cronbach, L. J. *Essentials of psychological testing.* (2nd ed.) New York: Harper & Row, 1960.

Cross, T. R. An exploratory investigation of the personality and background factors characterizing entering college men who possess a low intensity of vocational interests. Doctoral dissertation, University of Minnesota, 1955. Dissertation Abstracts, 1955, 15, 2467-2468.

Crowne, D. P., & Marlowe, D. A new scale of social desirability independent of psychopathology. Journal of Consulting Psychology, 1960, 24, 349-354.

Crowne, D. P., & Marlowe, D. The approval motive: Studies in evaluative dependence. New York: Wiley, 1964.

Darley, J. G. Clinical aspects and interpretation of the Strong Vocational Interest Blank. New York: Psychological Corp., 1941.

Darley, J. G., & Hagenah, T. Vocational interest measurement: Theory and practice. Minneapolis: University of Minnesota Press, 1955.

Davis, W. L., & Phares, E. J. Internal-external control as a determinant of information-seeking in a social influence situation. Journal of Personality, 1967, 35, 547-561.

Deutscher, J. C. A comparative study of selected academic and nonacademic measures of college males with high intensity and low intensity profiles on the Strong Vocational Interest Blank. (Doctoral dissertation, University of North Dakota, 1966) Ann Arbor, Mich.: University Microfilms, 1966. No. 66-12,535.

Dolliver, R. H. The relationship of certain variables to the amount of agreement in inventoried and expressed vocational interests. (Doctoral dissertation, Ohio State University, 1966) Ann Arbor, Mich.: University Microfilms, 1966. No. 66-14,084.

Eichsteadt, A. C. Factors associated with the development and nondevelopment of primary patterns on the Strong Vocational Interest Blank For Men. Doctoral dissertation, University of Wisconsin, 1949. Summaries of doctoral dissertations, July, 1949, to June, 1950, 1951, 328-329. Cited by G. T. Athelstan, An exploratory investigation of response patterns associated with low profiles on the Strong Vocational Interest Blank For Men. (Doctoral dissertation, University of Minnesota, 1966) Ann Arbor, Mich.: University Microfilms, 1967. No. 67-7696.

Faterson, H. F. Articulateness of experience: An extension of the field-dependence-independence concept. In S. Messick and J. Ross (Eds.), Measurement in personality and cognition. New York: Wiley, 1962. Pp. 171-181.

Fillenbaum, S. Some stylistic aspects of categorizing behavior. Journal of Personality, 1959, 27, 187-195.

Gardner, R. W. Cognitive styles in categorizing behavior. Journal of Personality, 1953, 22, 214-233.

Gardner, R., Holzman, P. S., Klein, G. S., Linton, H., & Spence, D. P. Cognitive control: A study of individual consistencies in cognitive behavior. Psychological Issues, 1959, 1, No. 4.

Gardner, R. W., Jackson, D. N., & Messick, S. J. Personality organization in cognitive controls and intellectual abilities. Psychological Issues, 1960, 2, No. 4.

Ghiselli, E. E. Differentiation of tests in terms of accuracy with which they predict for a given individual. Educational and Psychological Measurement, 1960, 20, 675-684. (a)

Ghiselli, E. E. The prediction of predictability. Educational and Psychological Measurement, 1960, 20, 3-8. (b)

Ghiselli, E. E. Moderating effects and differential reliability and validity. Journal of Applied Psychology, 1963, 47, 81-86.

Harvey, O. J., Hunt, D. E., & Schroder, H. M. Conceptual systems and personality organization. New York: Wiley, 1961.

Hotelling, H. Relations between two sets of variates. Biometrika, 1936, 28, 321-377.

Jackson, D. N., Messick, S., & Myers, C. T. Evaluation of group and individual forms of embedded-figures measures of field-independence. Educational and Psychological Measurement, 1964, 24, 177-192.

Jacobson, L. I., & Ford, L. H., Jr. Need for approval, defensive denial, and sensitivity to cultural stereotypes. Journal of Personality, 1966, 34, 596-609.

Jennings, B. S. Some cognitive control variables and psycholinguistic dimensions. (Doctoral dissertation, University of Florida, 1967) Ann Arbor, Mich.: University Microfilms, 1968. No. 68-13,011.

Kaplan, M. F., & Singer, E. Dogmatism and sensory alienation: An empirical investigation. Journal of Consulting Psychology, 1963, 27, 486-491.

Kinsala, J. E., & Phillips, E. L. Personality characteristics of veterans with no primary interest on the Strong Vocational Interest Test. Minnesota Counselor, 1949, 4 (No. 1), 13-17. Cited by W. G. Dahlstrom and G. S. Welsh, An MMPI handbook. Minneapolis: University of Minnesota Press, 1960.

Klein, G. S. The personal world through perception. In R. R. Blake and G. V. Ramsey (Eds.), Perception: An approach to personality. New York: Ronald, 1951. Pp. 328-355.

Klein, G. S. Cognitive control and motivation. In G. Lindzey (Ed.), Assessment of human motives. New York: Rinehart, 1958. Pp. 87-188.

Klein, G. S., Barr, H. C., & Wolitzky, D. L. Personality. Annual Review of Psychology, 1967, 18, 467-560.

Kogan, N., & Wallach, M. A. Risk taking: A study in cognition and personality. New York: Holt, Rinehart & Winston, 1964.

Kogan, N., & Wallach, M. A. Risk taking as a function of the situation, the person, and the group. In New Directions in Psychology III. New York: Holt, Rinehart & Winston, 1967. Pp. 111-278.

Korn, H. A., & Parker, E. B. Normative study of the S.V.I.B. using an objective method of pattern analysis. Personnel and Guidance Journal, 1962, 41, 222-228.

Layton, W. L. Counseling use of the Strong Vocational Interest Blank. Minneapolis: University of Minnesota Press, 1958.

Lefcourt, H. M. Internal versus external control of reinforcement: A review. Psychological Bulletin, 1966, 65, 206-220.

Levine, F. J. The relationship of constricted-flexible control to cognitive handling of impulses in three vocational groups. Doctoral dissertation, University of Michigan, 1966. Dissertation Abstracts, 1967, 28, 350B-351B.

Liverant, S., & Scodel, A. Internal and external control as determinants of decision making under conditions of risk. Psychological Reports, 1960, 7, 59-67.

Mahone, C. H. Fear of failure and unrealistic vocational aspiration. Journal of Abnormal and Social Psychology, 1960, 60, 253-261.

Messick, S. Personality structure. Annual Review of Psychology, 1961, 12, 93-128.

Messick, S., & Fritzky, F. J. Dimensions of analytic attitude in cognition and personality. Journal of Personality, 1963, 31, 346-370.

Messick, S., & Kogan, N. Differentiation and compartmentalization in object-sorting measures of categorizing style. Perceptual and Motor Skills, 1963, 16, 47-51.

Morris, J. L. Propensity for risk taking as a determinant of vocational choice: An extension of the theory of achievement motivation. Journal of Personality and Social Psychology, 1966, 3, 328-335.

Noonan, J. R. Personality determinants in attitudes toward disability. (Doctoral dissertation, University of Florida, 1966) Ann Arbor, Mich.: University Microfilms, 1967. No. 67-13,156.

Pettigrew, T. F. The measurement and correlates of category width as a cognitive variable. Journal of Personality, 1958, 26, 532-544.

Pierson, J. S. *Cognitive styles and measured vocational interests of college men.* (Doctoral dissertation, University of Texas, 1965) Ann Arbor, Mich.: University Microfilms, 1965. No. 65-8082.

Rokeach, M. A method for studying individual differences in "narrow-mindedness." *Journal of Personality*, 1951, *20*, 219-233.

Rokeach, M. *The open and closed mind.* New York: Basic Books, 1960.

Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 1966, *80* (1, Whole No. 609).

Rulon, P. J. A statistical study of the Strong Vocational Interest Blank. Doctoral dissertation, University of Minnesota, 1931. Cited by R. F. Berdie, Likes, dislikes, and vocational interests. *Journal of Applied Psychology*, 1943, *27*, 180-189.

Saunders, D. R. Moderator variables in prediction. *Educational and Psychological Measurement*, 1956, *16*, 209-222.

Schroder, H. M., Driver, M. J., & Streufert, S. *Human information processing: Individuals and groups functioning in complex social situations.* New York: Holt, Rinehart & Winston, 1967.

Sloane, H. N., Gorlow, L., & Jackson, D. N. Cognitive styles in equivalence range. *Perceptual and Motor Skills*, 1963, *16*, 389-404.

Smith, G. J. W., & Klein, G. S. Cognitive controls in serial behavior patterns. *Journal of Personality*, 1953, *22*, 188-213.

Stephenson, R. P. A new pattern analysis technique for the SVIB. *Journal of Counseling Psychology*, 1961, *8*, 355-362.

Stewart, D., & Love, W. A general canonical correlation index. *Psychological Bulletin*, 1968, *70*, 160-163.

Stewart, L. H. Modes of response on the Strong Blank and selected personality variables. *Journal of Counseling Psychology*, 1960, *7*, 127-131.

Stewart, L. H. Selected correlates of the specialization level scale of the Strong Vocational Interest Blank. *Personnel and Guidance Journal*, 1964, *42*, 867-873.

Strong, E. K., Jr. *Vocational interests of men and women.* Stanford: Stanford University Press, 1943.

Strong, E. K., Jr. *Vocational interests 18 years after college.* Minneapolis: University of Minnesota Press, 1955.

Strong, E. K., Jr. *SVIB, Strong Vocational Interest Blanks: Manual for men's forms T399 (1966), T399R (1966) and women's form W (1946)* (Revised by D. P. Campbell). Stanford: Stanford University Press, 1966.

Super, D. E., & Crites, J. O. Appraising vocational fitness: By means of psychological tests (Rev. ed.). New York: Harper and Row, 1962.

Tyler, L. The development of interests. In W. L. Layton (Ed.), The Strong Vocational Interest Blank: Research and uses. Minneapolis: University of Minnesota Press, 1960. Pp. 62-75.

Vannoy, J. S. Generality of cognitive complexity-simplicity as a personality construct. Journal of Personality and Social Psychology, 1965, 2, 385-396.

Wallach, M. A. Commentary: Active-analytical vs. passive-global cognitive functioning. In S. Messick and J. Ross (Eds.), Measurement in personality and cognition. New York: Wiley, 1962. Pp. 199-215.

Wallach, M. A., & Kogan, N. The roles of information, discussion, and consensus in group risk taking. Journal of Experimental Social Psychology, 1965, 1, 1-19.

Welsh, G. S. A projective figure-preference test for diagnosis of psychopathology: I. A preliminary investigation. Doctoral dissertation, University of Minnesota, 1949. Cited by F. Barron, Complexity-simplicity as a personality dimension. Journal of Abnormal and Social Psychology, 1953, 48, 163-172.

Wiggins, J. S. Personality structure. Annual Review of Psychology, 1968, 19, 293-350.

Witkin, H. A. The nature and importance of individual differences in perception. Journal of Personality, 1949, 18, 145-170.

Witkin, H. A. Psychological differentiation and forms of pathology. Journal of Abnormal Psychology, 1965, 70, 317-336.

Witkin, H. A., Dyk, R. B., Faterson, H. F., Goodenough, D. R., & Karp, S. A. Psychological differentiation. New York: Wiley, 1962.

Witkin, H. A., Lewis, H. B., Hertzman, M., Machover, K., Bretnall Meissner, P., & Wapner, S. Personality through perception. New York: Harper, 1954.

Zytowski, D. G. Characteristics of male university students with weak occupational similarity on the Strong Vocational Interest Blank. Journal of Counseling Psychology, 1965, 12, 182-185.

Zytowski, D. G. Internal-external control of reinforcement and the Strong Vocational Interest Blank. Journal of Counseling Psychology, 1967, 14, 177-179.

APPENDICES

APPENDIX A

SCORE RANGES OF, AND THE NUMBER OF SUBJECTS IN, THE TRIPLE DIVISIONS OF THE TWELVE VARIABLES USED AS MODERATOR VARIABLES

TABLE 16 (continued)

Variables Used As Moderator Variables		Initial Sample (N = 150)	Cross-Validation Sample (N = 102)
		Score Ranges (n)	Score Ranges (n)
Social Desirability	High	20-27 (51)	20-26 (42)
	Medium	17-19 (60)	17-19 (39)
	Low	8-16 (39)	13-16 (21)
Occupational Level	High	60-79 (63)	60-77 (28)
	Medium	54-59 (49)	54-59 (42)
	Low	42-53 (38)	41-53 (32)

APPENDIX B

MODERATED CORRELATIONS OF THE INITIAL SAMPLE

TABLE 17

CORRELATIONS BETWEEN FIELD INDEPENDENCE AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A CVA	B CW	C VER	D CD	E CC
PSPS	.05	High	.01	-.01	.10	.10	-.12
		Medium	.18	-.03	.04	.03	-.09
		Low	-.18	.16	.03	-.04	.32**
LRS	.01	High	.19	.00	.11	.04	-.13
		Medium	.03	-.01	-.06	.04	-.09
		Low	-.37**	.08	.03	-.10	.23
TSS	.07	High	.26*	.13	.12	.26*	-.04
		Medium	.05	.15	.10	-.05	-.10
		Low	-.32*	-.04	.04	-.02	.35**
RPS	-.04	High	-.25*	-.35**	-.07	-.15	-.20
		Medium	.03	.08	.12	-.12	.00
		Low	.10	.07	-.18	.23	.04

*$p < .10$

**$p < .05$

***$p < .01$

****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Complexity of Verbal Apparatus
B Category Width
C Verbal Equivalence Range
D Conceptual Differentiation
E Conceptual Compartmentalization
F Internal Control
G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 17 (continued)

	Moderator Subgroups (continued)					
	F IC	G Dog	H CR	I TA	J SD	K OL
High	.02	.03	-.02	-.04	.05	-.02
Medium	.18	-.10	.00	.02	.09	-.08
Low	-.03	.17	.17	.13	-.01	.19
High	.04	-.13	-.11	-.21	-.13	.04
Medium	.07	-.03	-.05	.05	.10	-.18
Low	-.08	.14	.18	.09	.11	.02
High	.19	-.03	-.17	-.28*	-.03	.15
Medium	.10	.13	.18	.26*	.15	-.08
Low	-.07	.12	.19	.15	.11	.01
High	-.08	.08	.05	.01	.16	-.17
Medium	.08	-.22	-.18	-.04	-.12	-.07
Low	-.08	-.03	-.02	-.09	-.19	.20

TABLE 18

CORRELATIONS BETWEEN COMPLEXITY OF VERBAL APPARATUS AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CW	C VER	D CD	E CC
PSPS	.16**	High	.16	.17	.08	.31**	.24*
		Medium	.24*	.18	.18	.04	.15
		Low	.05	.11	.23*	.13	.11
LRS	.09	High	.32**	.09	.06	.24*	.09
		Medium	.07	.12	.03	.02	.11
		Low	-.13	.09	.25*	-.02	.07
TSS	-.05	High	.17	-.10	-.06	-.08	-.16
		Medium	-.11	-.07	-.01	-.08	-.02
		Low	-.29**	.03	-.03	-.04	.03
RPS	.23***	High	.00	.19	.04	.22	.35***
		Medium	.39***	.35**	.23*	.20	.20
		Low	.27*	.07	.31**	.28*	.13

*$p < .10$
**$p < .05$
***$p < .01$
****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Category Width
C Verbal Equivalence Range
D Conceptual Differentiation
E Conceptual Compartmentalization
F Internal Control

G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 18 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	IC	Dog	CR	TA	SD	OL
High	.39***	.10	.16	.16	-.05	.13
Medium	.00	.19	.14	.28**	.21	.30**
Low	.03	.21	.21	.06	.44***	-.04
High	.31**	.08	.04	-.16	-.07	.18
Medium	-.08	.07	.20	.35**	.04	.13
Low	-.02	.12	.13	.05	.47***	-.15
High	.08	-.04	-.05	-.11	-.05	.01
Medium	-.07	-.22	.01	.03	-.13	-.14
Low	-.20	.02	-.07	-.08	.14	-.16
High	.25*	.09	.21	.34**	.10	.14
Medium	.21	.41***	.16	.29**	.24*	.48***
Low	.23	.21	.12	.06	.37**	.04

TABLE 19

CORRELATIONS BETWEEN CATEGORY WIDTH AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C VER	D CD	E CC
PSPS	.03	High	-.16	.03	-.37**	.11	.10
		Medium	.02	-.10	.31**	-.11	-.11
		Low	.18	.23	.10	.13	.07
LRS	-.05	High	-.11	-.03	-.28*	.04	-.07
		Medium	-.07	-.17	.13	-.20	-.15
		Low	-.02	.11	-.08	.03	.03
TSS	-.06	High	-.03	-.08	-.17	.08	-.05
		Medium	-.06	-.17	-.01	-.20	-.13
		Low	-.14	.26	-.02	.03	.03
RPS	.07	High	-.21	-.05	-.18	-.05	.10
		Medium	.11	.18	.20	.19	.11
		Low	.23	-.07	.11	.06	-.06

*$p < .10$

**$p < .05$

***$p < .01$

****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Verbal Equivalence Range
D Conceptual Differentiation
E Conceptual Compartmentalization
F Internal Control

G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 19 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	IC	Dog	CR	TA	SD	OL
High	.17	.06	-.08	-.01	-.02	-.10
Medium	-.04	-.06	.15	.06	.02	.01
Low	-.07	.11	.05	.02	.11	.04
High	-.01	-.09	-.19	-.27*	-.13	-.18
Medium	-.04	.00	.14	.11	-.10	-.12
Low	-.14	-.04	-.08	-.09	.12	-.05
High	-.06	-.15	-.18	-.27*	-.10	-.09
Medium	.00	.11	.05	.08	-.09	-.12
Low	-.10	-.08	-.08	.00	.02	-.08
High	.23*	.12	.10	.27*	.11	.03
Medium	-.09	-.17	-.07	-.04	.10	.21
Low	.00	.17	.02	.00	.01	-.05

TABLE 20

CORRELATIONS BETWEEN VERBAL EQUIVALENCE RANGE AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C CW	D CD	E CC
PSPS	.03	High	.00	.07	-.14	.06	.33**
		Medium	.15	-.06	-.05	.06	-.16
		Low	-.09	.03	.28**	-.11	.01
LRS	-.06	High	-.05	.03	-.20	.09	.13
		Medium	.02	-.26**	-.01	-.18	-.14
		Low	-.17	.13	.00	-.09	-.16
TSS	-.11	High	-.15	.03	-.21	.19	.04
		Medium	-.08	-.35***	-.05	-.31**	-.19
		Low	-.18	.14	-.11	-.19	-.24*
RPS	.10	High	.19	-.03	.07	.03	.02
		Medium	.15	.17	.02	.14	.19
		Low	.01	.05	.24*	.12	.10

*$p < .10$
**$p < .05$
***$p < .01$
****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Conceptual Differentiation
E Conceptual Compartmentalization
F Internal Control

G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 20 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	IC	Dog	CR	TA	SD	OL
High	.10	-.03	.17	-.04	-.04	.04
Medium	-.01	.05	.15	.11	.01	-.15
Low	-.08	.06	-.31**	.00	.18	.29*
High	-.05	-.01	.01	-.20	-.20	.04
Medium	-.06	-.24	.02	.04	.01	-.25**
Low	-.07	.05	-.28*	-.07	.02	.05
High	-.11	-.02	-.09	-.25	-.20	-.04
Medium	.00	-.41***	-.13	-.05	-.07	-.21
Low	-.20	.04	-.24*	-.05	-.15	-.11
High	.04	.10	.30**	.24	.25*	-.06
Medium	.06	.28*	.05	.12	.02	.33**
Low	.19	-.05	-.08	-.03	.12	.13

TABLE 21

CORRELATIONS BETWEEN CONCEPTUAL DIFFERENTIATION AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C CW	D VER	E CC
PSPS	-.05	High	-.03	.10	-.03	-.12	-.08
		Medium	-.09	-.23*	-.13	.04	.03
		Low	.01	.08	.01	-.10	-.05
LRS	-.05	High	-.13	.14	-.03	-.02	-.17
		Medium	-.02	-.19	-.05	.01	.05
		Low	-.07	.00	-.07	-.22	.00
TSS	-.11	High	-.10	-.11	-.14	.03	-.22
		Medium	-.08	-.11	-.06	-.03	-.04
		Low	-.23	-.09	-.15	-.37***	-.06
RPS	-.03	High	-.18	.01	-.05	-.09	-.06
		Medium	.02	-.04	-.12	-.05	-.08
		Low	.05	.09	.10	.07	.12

*p < .10
**p < .05
***p < .01
****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Compartmentalization
F Internal Control
G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 21 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	IC	Dog	CR	TA	SD	CL
High	-.04	-.20	-.08	-.37**	.09	-.16
Medium	-.16	-.04	-.07	.07	-.17	-.13
Low	.05	.04	-.02	.15	-.12	.22
High	-.12	-.20	-.17	-.40***	.10	-.14
Medium	-.09	.07	.10	.12	-.22*	-.18
Low	.09	.01	-.04	.08	-.07	.18
High	-.24*	-.18	-.17	-.35**	.04	-.10
Medium	-.07	.11	.13	.00	-.22*	-.33**
Low	.02	-.15	-.19	.02	-.14	.13
High	-.05	.06	.07	.04	.10	-.19
Medium	-.12	-.25	-.22	-.08	-.14	-.05
Low	.06	.03	.01	-.03	-.05	.17

TABLE 22

CORRELATIONS BETWEEN CONCEPTUAL COMPARTMENTALIZATION AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C CW	D VER	E CD
PSPS	-.08	High	-.22	-.07	-.04	.13	-.07
		Medium	-.06	-.07	-.13	-.07	-.06
		Low	.05	-.10	-.07	-.21	-.09
LRS	-.05	High	-.20	-.10	-.05	.18	.01
		Medium	.07	.00	-.05	-.12	-.08
		Low	-.05	-.02	-.06	-.15	-.02
TSS	-.02	High	-.13	-.13	.00	.15	-.02
		Medium	.02	.05	-.10	-.24*	.05
		Low	.03	.03	.04	.00	-.09
RPS	-.09	High	-.12	.01	.06	-.13	-.23
		Medium	-.30**	-.14	-.25*	-.09	.09
		Low	.20	-.07	-.02	-.04	-.15

*$p < .10$

**$p < .05$

***$p < .01$

****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Internal Control
G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 22 (continued)

	Moderator Subgroups (continued)					
	F IC	G Dog	H CR	I TA	J SD	K OL
High	-.12	.01	-.18	-.37**	-.06	-.07
Medium	-.14	-.28*	-.14	-.03	-.09	-.18
Low	.07	-.03	.10	.04	-.17	.07
High	-.04	-.07	-.07	-.03	-.12	-.04
Medium	-.19	-.12	-.10	-.06	.01	-.07
Low	.11	-.01	.01	-.07	-.16	-.02
High	.12	-.10	.08	.11	-.31**	.06
Medium	-.26*	-.01	.04	-.09	.11	-.04
Low	-.01	.04	-.18	-.09	.01	-.14
High	-.06	-.10	-.21	-.15	.04	-.02
Medium	-.09	-.10	-.12	-.16	-.13	-.13
Low	-.12	-.02	.06	.00	-.15	-.09

TABLE 23

CORRELATIONS BETWEEN INTERNAL CONTROL AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C CW	D VER	E CD
PSPS	.02	High	.09	.17	.14	.12	-.05
		Medium	.01	-.11	-.03	-.12	.08
		Low	-.04	-.10	-.07	.05	.05
LRS	.00	High	.18	.20	.00	.03	-.08
		Medium	-.05	-.17	.03	-.03	-.04
		Low	-.14	-.03	-.02	.03	.18
TSS	.00	High	.27*	.18	-.11	.14	-.15
		Medium	-.12	-.14	.10	-.01	.12
		Low	-.16	-.11	-.01	-.09	.05
RPS	.14	High	.04	.14	.43***	.25*	.21
		Medium	.18	.24*	.00	-.18	.03
		Low	.22	-.07	.02	.29**	.23

*$p < .10$

**$p < .05$

***$p < .01$

****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization
G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 23 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	CC	Dog	CR	TA	SD	OL
High	.03	-.02	.11	-.06	-.07	.02
Medium	.06	-.15	.00	-.08	-.14	-.10
Low	-.05	.20	-.05	.18	.42***	-.06
High	-.09	-.10	-.03	-.26*	-.04	-.02
Medium	.03	-.03	.07	.02	-.16	-.11
Low	.08	.13	-.04	.15	.35**	-.11
High	-.09	-.16	-.14	-.24	-.13	.04
Medium	.02	.10	.07	.14	.00	-.17
Low	.10	.08	.03	.00	.19	-.06
High	.31**	.20	.12	.19	.16	.24*
Medium	.04	-.19	.04	-.13	.18	.12
Low	.04	.29**	.14	.37***	.07	.02

TABLE 24

CORRELATIONS BETWEEN DOGMATISM AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C CW	D VER	E CD
PSPS	.00	High	-.04	-.01	-.05	.00	-.13
		Medium	.07	.22*	.13	-.02	.08
		Low	-.05	-.17	-.13	.01	.04
LRS	.04	High	-.06	.09	-.03	.02	-.14
		Medium	.04	.13	.14	.03	.22*
		Low	.14	-.02	-.05	.08	.06
TSS	.05	High	.08	.09	.04	.12	.00
		Medium	.01	.06	.10	-.05	.25*
		Low	.14	-.01	.01	.08	-.04
RPS	-.13	High	-.15	-.18	-.14	-.07	-.06
		Medium	-.08	-.03	-.18	-.13	-.24*
		Low	-.19	.09	-.03	-.19	-.09

*$p < .10$
**$p < .05$
***$p < .01$
****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization

G Internal Control
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 24 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	CC	IC	CR	TA	SD	OL
High	-.08	-.05	-.15	.00	-.06	.05
Medium	-.02	.01	.24*	.09	.02	-.03
Low	.10	.05	-.04	-.05	-.03	.09
High	-.10	-.02	.00	.22	-.11	-.03
Medium	.06	.01	.07	-.02	.16	.09
Low	.17	.20	.04	.03	.04	.19
High	-.02	.08	.03	.15	-.11	.06
Medium	.05	-.11	.10	.02	.19	.03
Low	.16	.23	.03	.01	-.04	.16
High	-.10	-.23*	-.11	-.27*	.10	-.17
Medium	-.20	-.03	.08	-.02	-.35***	-.19
Low	-.06	-.09	-.24*	-.11	-.03	.11

TABLE 25

CORRELATIONS BETWEEN CONSERVATISM-RISKINESS AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C CW	D VER	E CD
PSPS	-.05	High	-.03	.00	-.09	.15	-.15
		Medium	-.16	.04	.08	-.13	.02
		Low	.08	-.09	-.10	-.17	.04
LRS	.00	High	-.09	-.10	.01	.10	-.13
		Medium	.02	.11	.03	-.04	.16
		Low	.11	.19	-.06	-.05	.02
TSS	.02	High	-.23	-.16	.12	.06	-.04
		Medium	.15	.10	-.03	-.05	.14
		Low	.14	.16	-.04	.03	-.06
RPS	-.25***	High	-.22	-.16	-.39***	-.10	-.30**
		Medium	-.35***	-.16	-.15	-.29**	-.22*
		Low	-.22	-.20	-.26*	-.32**	-.24

*$p < .10$
**$p < .05$
***$p < .01$
****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization
G Internal Control
H Dogmatism
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 25 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	CC	IC	Dog	TA	SD	OL
High	-.13	-.16	-.10	-.07	.10	-.04
Medium	-.04	.24*	.07	.09	-.12	-.10
Low	.03	-.28*	-.11	-.18	-.33**	.28*
High	.04	-.14	-.07	.21	.05	-.11
Medium	-.04	.25*	.29*	.10	.06	.05
Low	.01	-.14	-.07	-.21	-.22	.40**
High	.20	-.12	-.09	.13	.02	-.12
Medium	-.09	.21	.43***	.01	.10	.12
Low	-.11	-.04	-.07	-.08	-.03	.33**
High	-.41***	-.25*	-.20	-.33**	-.30**	-.17
Medium	-.08	-.23	-.28*	-.20	-.22*	-.22
Low	-.21	-.22	-.25*	-.24*	-.37**	-.38**

TABLE 26

CORRELATIONS BETWEEN TEST ANXIETY AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C CW	D VER	E CD
PSPS	.06	High	-.18	.08	-.03	.05	-.18
		Medium	.13	-.03	.07	.30**	.27**
		Low	.21	.19	.13	-.17	.07
LRS	.17**	High	-.08	.15	.07	.00	.01
		Medium	.25**	.10	.14	.46***	.26**
		Low	.30**	.38**	.34**	.00	.24
TSS	.13	High	-.20	.06	-.01	-.21	-.05
		Medium	.31**	.14	.13	.46***	.16
		Low	.17	.21	.27*	.03	.28*
RPS	-.05	High	-.01	.11	-.01	.24	.02
		Medium	-.12	-.14	-.01	-.09	-.01
		Low	.01	-.10	-.11	-.17	-.17

*p < .10
**p < .05
***p < .01
****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization
G Internal Control
H Dogmatism
I Conservatism-Riskiness
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 26 (continued)

Moderator Subgroups (continued)						
	F CC	G IC	H Dog	I CR	J SD	K OL
High	-.08	-.10	.14	.16	.22	.01
Medium	-.01	.34**	-.07	.00	.10	-.03
Low	.31**	-.06	.11	-.01	-.17	.37**
High	.23*	-.04	.27*	.39***	.36***	.09
Medium	-.01	.33**	.20	.02	.12	.15
Low	.25*	.25*	.11	-.01	.01	.40**
High	.26*	.02	.19	.36***	.30**	.06
Medium	-.12	.17	.15	-.11	.08	.10
Low	.15	.19	.07	.01	.00	.33**
High	-.18	-.15	-.15	-.15	-.05	.00
Medium	.25*	.04	-.09	.20	.00	.01
Low	-.08	.03	.02	-.11	-.14	-.14

TABLE 27

CORRELATIONS BETWEEN SOCIAL DESIRABILITY AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C CW	D VER	E CD
PSPS	-.05	High	.24	-.14	-.05	-.16	-.02
		Medium	-.22*	.03	-.12	-.09	.02
		Low	-.14	-.03	-.01	.08	-.22
LRS	.00	High	.13	-.08	-.05	-.15	.01
		Medium	-.12	.06	-.07	-.04	.09
		Low	.04	.00	.15	.21	-.13
TSS	.12	High	.34**	.25*	.00	.08	.11
		Medium	-.02	.05	.15	.02	.21
		Low	.15	.02	.22	.30**	.03
RPS	-.11	High	.08	-.21	-.03	-.06	.03
		Medium	-.24*	-.14	-.11	-.14	-.13
		Low	-.12	.16	-.24*	-.15	-.23

*$p < .10$
**$p < .05$
***$p < .01$
****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization

G Internal Control
H Dogmatism
I Conservatism-Riskiness
J Test Anxiety
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 27 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	CC	IC	Dog	CR	TA	OL
High	.04	-.22*	-.21	-.07	.04	.07
Medium	-.22	-.02	-.08	.15	-.03	-.14
Low	.04	.12	.04	-.26*	-.12	-.01
High	.05	-.06	-.10	-.06	.11	.02
Medium	-.10	.04	.05	.13	.11	.04
Low	.05	.02	.03	-.17	-.16	.07
High	-.10	.07	.12	.08	.11	.13
Medium	.27*	.13	.12	.16	.34**	.16
Low	.21	.17	.11	-.02	-.09	.16
High	-.08	-.08	-.04	-.05	-.03	-.11
Medium	-.19	-.20	-.16	-.21	-.18	-.20
Low	-.04	-.08	-.10	-.18	-.09	.03

TABLE 28

CORRELATIONS BETWEEN OCCUPATIONAL LEVEL AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C CW	D VER	E CD
PSPS	.18**	High	.06	.23*	.18	.11	.10
		Medium	.25**	.15	.21	.22	.22*
		Low	.21	.04	.13	.24*	.22
LRS	.20**	High	.32**	.38***	.10	.12	.04
		Medium	.14	.15	.29**	.15	.34***
		Low	.15	-.03	.24*	.28**	.23
TSS	.09	High	.31**	.19	-.03	.05	.05
		Medium	-.04	.01	.26*	.06	.07
		Low	.02	.07	.02	.10	.16
RPS	.09	High	-.10	.07	.19	.01	.02
		Medium	.13	.05	.03	.10	.11
		Low	.21	.01	.04	.17	.17

*$p < .10$
**$p < .05$
***$p < .01$
****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization

G Internal Control
H Dogmatism
I Conservatism-Riskiness
J Test Anxiety
K Social Desirability

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 28 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	CC	IC	Dog	CR	TA	SD
High	.31**	.27**	.15	.05	-.01	.22
Medium	.03	.14	.24	.18	.09	.16
Low	.21	.12	.18	.37***	.39***	.11
High	.27**	.23*	.06	-.02	-.13	.13
Medium	.21	.16	.35**	.37***	.25*	.07
Low	.16	.24	.24*	.36**	.37***	.51***
High	.13	.12	.01	-.11	-.08	.07
Medium	.10	.05	.18	.18	.09	.01
Low	.06	.12	.10	.23	.18	.37**
High	.23*	.16	.08	.15	.14	.05
Medium	-.08	.12	-.20	.08	.08	.20
Low	.09	-.10	.30**	-.09	.07	-.12

TABLE 29

CORRELATIONS BETWEEN SPECIALIZATION LEVEL AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (INITIAL SAMPLE)

	Overall Correlation (N = 150)		Moderator Subgroups****				
			A FI	B CVA	C CW	D VER	E CD
PSPS	.07	High	.08	.15	.06	.17	.34**
		Medium	.19	.05	.05	-.12	-.20
		Low	-.09	-.25	.09	.17	.15
LRS	-.11	High	-.16	-.13	.04	-.10	-.02
		Medium	-.04	-.11	-.25*	-.22	-.22*
		Low	-.17	-.33*	-.11	-.04	-.09
TSS	-.22***	High	-.41***	-.43***	-.05	-.36**	-.27*
		Medium	-.17	-.12	-.46***	-.19	-.26**
		Low	-.19	-.18	-.12	-.18	-.12
RPS	.28***	High	.27*	.10	.23	.41***	.43***
		Medium	.26**	.29**	.35**	.10	.09
		Low	.31**	.17	.22	.35***	.35***

*$p < .10$
**$p < .05$
***$p < .01$
****The N in each subgroup was approximately 50. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization
G Internal Control
H Dogmatism
I Conservatism-Riskiness
J Test Anxiety
K Social Desirability
L Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 29 (continued)

	Moderator Subgroups (continued)						
	F	G	H	I	J	K	L
	CC	IC	Dog	CR	TA	SD	OL
High	.02	.22*	.04	-.01	-.07	-.14	.08
Medium	.07	-.11	.06	.05	.12	.17	.11
Low	.09	.12	.10	.16	.12	.04	-.19
High	-.18	.03	-.16	-.08	-.36**	-.33**	-.07
Medium	-.27*	-.23	-.19	-.11	-.11	-.05	-.10
Low	.06	-.14	-.02	-.12	.04	.09	-.39**
High	-.28**	-.01	-.33**	-.07	-.15	-.33**	-.23*
Medium	-.42***	-.39***	-.22	-.26*	-.40***	-.16	-.21
Low	.04	-.28*	-.11	-.31**	-.16	-.07	-.38**
High	.40***	.41***	.41***	.17	.43***	.25*	.27**
Medium	.33**	.22	.21	.25*	.36***	.38***	.38***
Low	.08	.11	.19	.37***	.12	.03	.12

APPENDIX C

MODERATED CORRELATIONS OF THE CROSS-VALIDATION SAMPLE

TABLE 30

CORRELATIONS BETWEEN FIELD INDEPENDENCE AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A CVA	B CW	C VER	D CD	E CC
PSPS	-.11	High	-.20	-.15	-.17	.02	.10
		Medium	-.12	-.29	-.22	-.15	-.19
		Low	.04	.17	.09	-.17	-.19
LRS	-.21*	High	-.27	-.30	-.05	-.09	-.11
		Medium	-.07	-.32*	-.38*	-.24	-.23
		Low	-.31	-.03	-.31	-.28	-.23
TSS	-.09	High	-.05	-.27	.09	.02	-.12
		Medium	.03	.00	-.25	-.10	.03
		Low	-.25	-.04	-.16	-.19	-.16
RPS	-.07	High	-.38*	.08	-.23	.19	-.06
		Medium	-.07	-.46**	.08	-.19	-.11
		Low	.19	.12	.02	-.21	-.04

*p< .05
**p< .01
***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Complexity of Verbal Apparatus
B Category Width
C Verbal Equivalence Range
D Conceptual Differentiation
E Conceptual Compartmentalization
F Internal Control
G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 30 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	IC	Dog	CR	TA	SD	OL
High	-.15	-.25	-.21	-.06	-.34*	.14
Medium	-.31	-.10	.07	.11	.19	-.25
Low	.06	-.02	-.10	-.34	-.18	-.11
High	-.34	-.30	-.44*	-.34*	-.38*	.03
Medium	-.32	-.24	.09	.12	-.09	-.27
Low	-.06	-.14	-.20	-.35*	-.12	-.27
High	-.25	-.11	-.21	-.19	-.05	.04
Medium	-.13	-.11	-.02	.24	-.16	.03
Low	.04	-.13	-.03	-.20	-.09	-.35*
High	.00	-.17	.15	.18	-.33*	-.04
Medium	-.11	.01	-.11	-.16	.30	-.25
Low	-.04	-.08	-.16	-.25	-.27	.14

TABLE 31

CORRELATIONS BETWEEN COMPLEXITY OF VERBAL APPARATUS AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CW	C VER	D CD	E CC
PSPS	.10	High	-.06	-.01	.15	.30	.30
		Medium	.23	.16	.02	.15	-.06
		Low	.12	.29	.17	-.12	.12
LRS	.07	High	.09	-.10	.07	.28	.31
		Medium	.18	.06	.02	.18	-.07
		Low	-.10	.28	.16	-.28	.07
TSS	.01	High	.12	-.06	-.10	.29	.09
		Medium	.12	.07	.02	.06	-.01
		Low	-.29	.08	.12	-.24	-.05
RPS	.14	High	-.05	-.08	.30	.27	.27
		Medium	-.02	.14	.26	.00	.13
		Low	.55**	.29	-.20	.24	.02

*$p < .05$

**$p < .01$

***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Category Width
C Verbal Equivalence Range
D Conceptual Differentiation
E Conceptual Compartmentalization
F Internal Control
G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 31 (continued)

	Moderator Subgroups (continued)					
	F IC	G Dog	H CR	I TA	J SD	K OL
High	.45*	-.24	-.32	-.02	.10	.35
Medium	.08	.27	.29	.08	.04	.07
Low	-.13	.29	-.01	.28	.20	-.08
High	.25	-.14	-.22	.01	.10	.22
Medium	.17	.08	.28	.16	-.01	.08
Low	-.12	.24	-.07	.09	.14	-.11
High	-.12	-.09	-.22	.13	.03	.00
Medium	.31	-.05	.15	-.24	-.01	.02
Low	-.17	.22	.01	-.03	-.03	-.07
High	.33	-.13	.04	.13	.24	.11
Medium	.18	.40*	.32*	.04	.02	.15
Low	.00	-.02	-.07	.29	.18	.16

TABLE 32

CORRELATIONS BETWEEN CATEGORY WIDTH AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C VER	D CD	E CC
PSPS	-.13	High	-.21	-.25	-.16	.07	-.19
		Medium	-.04	-.11	-.40*	-.02	-.06
		Low	-.11	-.05	.10	-.44**	-.07
LRS	-.12	High	-.09	-.24	-.16	.07	-.10
		Medium	-.20	-.21	-.52**	-.03	-.02
		Low	.00	.11	.23	-.44**	-.20
TSS	-.10	High	-.17	-.04	-.02	-.15	-.18
		Medium	-.06	-.21	-.37*	.05	.09
		Low	-.05	-.01	.02	-.29	-.20
RPS	.09	High	.17	-.23	.07	.51**	.11
		Medium	.01	.32	.30	-.06	-.16
		Low	.12	.08	-.10	-.15	.38*

*p< .05
**p< .01
***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence	G Dogmatism
B Complexity of Verbal Apparatus	H Conservatism-Riskiness
C Verbal Equivalence Range	I Test Anxiety
D Conceptual Differentiation	J Social Desirability
E Conceptual Compartmentalization	K Occupational Level
F Internal Control	

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 32 (continued)

Moderator Subgroups (continued)						
	F IC	G Dog	H CR	I TA	J SD	K OL
High	.26	-.23	-.30	-.26	-.22	-.16
Medium	-.30	-.26	-.02	-.17	-.03	-.09
Low	-.21	.09	-.12	.01	-.12	-.17
High	.18	.00	-.20	-.27	-.02	-.37*
Medium	-.26	-.38*	.05	.01	-.20	-.04
Low	-.19	.05	-.16	-.09	-.09	-.12
High	.04	.01	-.23	-.18	.06	-.45*
Medium	.00	-.25	.02	.17	-.21	.06
Low	-.33*	-.12	-.04	-.26	-.35	-.10
High	.07	-.15	.28	.22	-.17	.21
Medium	.01	.31	-.01	-.31	.37*	-.03
Low	.14	-.08	-.08	.35*	.12	.20

TABLE 33

CORRELATIONS BETWEEN VERBAL EQUIVALENCE RANGE AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C CW	D CD	E CC
PSPS	-.01	High	-.20	-.07	-.13	.07	-.09
		Medium	.05	.19	-.05	.16	.13
		Low	.06	-.14	.15	-.31	.07
LRS	.04	High	.06	.01	-.16	.04	.03
		Medium	.10	.06	-.08	.21	.21
		Low	-.24	.06	.26	-.26	.00
TSS	.12	High	.27	.00	.01	.12	.18
		Medium	.04	.14	.22	.28	.23
		Low	.01	.28	.13	-.16	.01
RPS	-.02	High	-.13	.06	.16	-.17	-.15
		Medium	.01	.19	-.17	.10	.03
		Low	.03	-.47**	-.09	-.02	.10

*$p < .05$

**$p < .01$

***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Conceptual Differentiation
E Conceptual Compartmentalization
F Internal Control
G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 33 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	IC	Dog	CR	TA	SD	OL
High	-.13	.02	.01	.01	.07	-.04
Medium	.08	-.15	-.12	-.19	-.13	-.07
Low	-.03	.10	-.01	.09	.06	.12
High	-.09	.01	.02	.07	.22	.19
Medium	.10	-.10	-.17	-.22	-.03	-.10
Low	.05	.22	.16	.17	-.13	.15
High	.02	-.01	.15	.03	.21	.14
Medium	.17	.12	.09	-.06	.07	.00
Low	.16	.26	.15	.32	-.05	.33
High	.13	-.04	-.30	.02	-.07	-.31
Medium	.15	.00	.05	.07	-.21	.15
Low	-.31*	-.01	-.05	-.12	.59**	-.04

TABLE 34

CORRELATIONS BETWEEN CONCEPTUAL DIFFERENTIATION AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C CW	D VER	E CC
PSPS	.05	High	.26	.14	.22	.09	.23
		Medium	-.03	.18	.15	.19	.02
		Low	-.08	-.16	-.23	-.23	-.10
LRS	-.03	High	.22	.26	.23	.10	.17
		Medium	-.13	-.02	-.02	-.06	-.29
		Low	-.14	-.29	-.24	-.16	.00
TSS	-.12	High	.17	.19	.04	-.06	-.02
		Medium	-.27	-.06	-.31	-.14	-.42*
		Low	-.31	-.40*	-.12	-.13	.01
RPS	.08	High	.25	.07	.35*	-.13	.26
		Medium	.18	.24	.31	.33	.28
		Low	-.17	-.01	-.23	-.02	-.27

*$p < .05$

**$p < .01$

***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Compartmentalization
F Internal Control
G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 34 (continued)

	Moderator Subgroups (continued)					
	F IC	G Dog	H CR	I TA	J SD	K OL
High	.24	.10	.23	−.13	.39**	.37*
Medium	−.25	.04	−.03	.17	−.19	−.08
Low	.24	.03	.03	.13	−.22	−.01
High	−.04	−.13	−.20	−.22	.26	.43*
Medium	−.34*	−.02	−.03	.01	−.22	−.17
Low	.30	.07	.09	.19	−.21	−.17
High	−.17	−.26	−.36*	−.14	.02	.07
Medium	−.38*	−.03	−.22	−.29	−.23	−.16
Low	.30	−.08	.15	.05	−.34	−.23
High	.33	.17	.37*	.10	.27	.32
Medium	.08	.06	.03	.11	−.03	−.02
Low	−.16	.05	−.11	.09	−.29	.06

TABLE 35

CORRELATIONS BETWEEN CONCEPTUAL COMPARTMENTALIZATION AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C CW	D VER	E CD
PSPS	.04	High	.21	.08	.09	.04	.16
		Medium	.02	.00	-.06	.14	-.07
		Low	-.08	.02	.19	-.03	-.06
LRS	.07	High	.29	.13	.20	.12	.15
		Medium	.02	.08	-.02	.28	-.03
		Low	.05	-.04	.12	-.15	.11
TSS	-.05	High	.03	.04	-.01	.12	-.05
		Medium	-.24	-.15	-.15	.13	-.12
		Low	.21	.02	.08	-.35	.22
RPS	-.09	High	-.16	.10	-.12	-.23	-.04
		Medium	.17	-.24	-.08	-.09	-.13
		Low	-.21	-.08	-.07	.10	-.32

*$p < .05$

**$p < .01$

***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Internal Control

G Dogmatism
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 35 (continued)

	Moderator Subgroups (continued)					
	F IC	G Dog	H CR	I TA	J SD	K OL
High	.40*	-.12	.23	-.10	.03	.01
Medium	-.22	.09	-.06	-.07	.01	.04
Low	.07	.16	-.03	.24	.15	.07
High	.27	-.05	.14	.02	-.04	.15
Medium	.04	.05	.12	.06	.03	-.11
Low	.00	.25	-.03	.10	.37	.27
High	-.01	-.10	.06	-.02	-.10	-.06
Medium	-.09	-.10	-.04	-.08	-.09	-.31*
Low	.00	.06	-.11	-.06	.11	.41*
High	.02	-.32*	-.15	-.16	-.21	.02
Medium	-.22	.09	-.18	-.15	.08	-.04
Low	-.09	.02	-.04	.07	-.07	-.23

TABLE 36

CORRELATIONS BETWEEN INTERNAL CONTROL AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C CW	D VER	E CD
PSPS	-.08	High	-.14	.19	-.07	-.06	-.36
		Medium	-.26	-.07	.06	-.23	.15
		Low	.15	-.30	-.31	.01	-.11
LRS	-.01	High	-.08	.21	-.12	-.06	-.34
		Medium	-.14	.00	.20	-.14	.13
		Low	.19	-.15	-.16	.16	.10
TSS	.06	High	-.11	.14	.22	-.05	-.18
		Medium	.09	-.01	.09	.11	.12
		Low	.13	.09	-.11	.14	.15
RPS	.12	High	.20	.35*	.14	.29	.21
		Medium	-.05	.03	.17	.10	.26
		Low	.22	.01	.00	-.16	-.09

*$p < .05$
**$p < .01$
***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence	G Dogmatism
B Complexity of Verbal Apparatus	H Conservatism-Riskiness
C Category Width	I Test Anxiety
D Verbal Equivalence Range	J Social Desirability
E Conceptual Differentiation	K Occupational Level
F Conceptual Compartmentalization	

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 36 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	CC	Dog	CR	TA	SD	OL
High	-.11	-.41*	-.28	-.30	.02	-.38*
Medium	-.07	.07	.03	-.04	-.18	.01
Low	-.12	.06	-.16	.05	-.09	.02
High	.03	-.24	-.05	-.25	.09	-.44*
Medium	-.03	.00	.05	.16	-.15	.13
Low	-.08	.19	-.10	.09	.05	.03
High	.02	.08	.18	-.09	.09	-.33
Medium	.09	-.17	.06	.23	-.06	.23
Low	.07	.24	-.02	.04	.15	.09
High	.21	-.10	-.07	.15	.11	.21
Medium	-.22	.34*	.17	-.02	.31	.05
Low	.31	.07	.14	.23	-.10	.15

TABLE 37

CORRELATIONS BETWEEN DOGMATISM AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C CW	D VER	E CD
PSPS	-.01	High	-.13	-.28	-.06	.00	-.16
		Medium	-.03	.09	-.10	-.01	.09
		Low	.15	.31	.09	-.02	-.06
LRS	-.04	High	-.17	-.29	-.04	-.10	-.25
		Medium	-.04	-.08	-.12	-.01	.03
		Low	.10	.26	.01	.04	.04
TSS	.03	High	-.05	-.31	-.02	-.01	-.12
		Medium	.03	.08	-.03	-.07	.14
		Low	.14	.22	.09	.19	.06
RPS	-.19	High	-.29	-.32	-.17	-.12	-.17
		Medium	-.08	.05	-.10	-.21	-.23
		Low	-.25	-.17	-.21	-.29	-.23

*$p < .05$

**$p < .01$

***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization
G Internal Control
H Conservatism-Riskiness
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 37 (continued)

Moderator Subgroups (continued)						
	F	G	H	I	J	K
	CC	IC	CR	TA	SD	OL
High	-.18	-.21	.24	.15	.11	-.18
Medium	.26	.06	-.29	-.30	-.10	.03
Low	-.08	.05	.13	.06	-.06	.08
High	-.37*	-.22	.08	.11	.02	-.05
Medium	.21	.01	-.50**	-.40*	-.05	.05
Low	.01	.04	.23	.08	-.06	-.08
High	-.17	-.03	.14	.09	.09	-.02
Medium	.08	.20	-.27	-.11	.04	.16
Low	.18	-.07	.12	.11	-.19	-.06
High	-.35*	-.33	-.15	-.27	-.31*	-.14
Medium	-.10	-.23	-.29	.00	-.12	-.23
Low	-.11	-.04	-.09	-.31	-.12	-.22

TABLE 38

CORRELATIONS BETWEEN CONSERVATISM-RISKINESS AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C CW	D VER	E CD
PSPS	-.21*	High	-.10	-.10	.00	-.09	-.04
		Medium	-.29	-.29	-.42**	-.47**	-.18
		Low	-.20	-.18	-.09	-.09	-.37*
LRS	-.26**	High	-.19	-.22	.06	-.19	-.24
		Medium	-.27	-.23	-.52**	-.48**	-.25
		Low	-.25	-.33	-.21	-.14	-.23
TSS	-.07	High	-.06	-.02	.15	.02	-.19
		Medium	-.04	-.17	-.18	-.13	-.03
		Low	-.05	.00	-.07	-.06	.04
RPS	-.06	High	.05	-.01	.09	-.21	.04
		Medium	-.04	.22	-.08	-.06	.02
		Low	-.21	-.32	-.13	.09	-.38*

*$p < .05$

**$p < .01$

***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization
G Internal Control
H Dogmatism
I Test Anxiety
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 38 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	CC	IC	Dog	TA	SD	OL
High	-.18	-.19	-.12	-.42**	-.29	-.09
Medium	-.19	-.20	-.55**	-.17	-.12	-.31*
Low	-.22	-.21	.09	-.04	-.21	-.08
High	-.28	-.23	-.27	-.50**	-.23	-.06
Medium	-.28	-.30	-.54**	-.06	-.15	-.39**
Low	-.20	-.26	.14	-.13	-.50*	-.15
High	-.06	.02	.05	-.38*	.06	.03
Medium	-.16	-.16	-.15	.29	-.03	-.04
Low	.01	-.03	-.10	.05	-.51*	-.08
High	-.14	-.15	-.04	.08	-.31*	-.13
Medium	-.12	-.07	-.19	-.13	.13	-.07
Low	.08	-.07	.11	-.18	.12	.06

TABLE 39

CORRELATIONS BETWEEN TEST ANXIETY AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C CW	D VER	E CD
PSPS	.05	High	.14	-.04	.10	-.05	.07
		Medium	.22	-.03	-.12	.02	-.00
		Low	-.24	.24	.15	.16	.16
LRS	.03	High	.11	.00	.17	-.08	-.02
		Medium	.12	-.11	-.15	-.02	.07
		Low	-.12	.17	.08	.16	.12
TSS	-.03	High	-.02	.05	.07	-.22	-.10
		Medium	.04	-.29	-.11	.01	.09
		Low	-.11	.09	-.03	.16	-.12
RPS	.03	High	.20	-.07	-.02	-.07	.14
		Medium	-.03	.33*	-.14	-.02	-.08
		Low	-.06	.00	.18	-.05	.05

*$p<.05$
**$p<.01$
***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization
G Internal Control
H Dogmatism
I Conservatism-Riskiness
J Social Desirability
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 39 (continued)

Moderator Subgroups (continued)						
	F CC	G IC	H Dog	I CR	J SD	K OL
High	.01	.05	.24	.06	.06	.33
Medium	.19	-.10	-.14	-.19	.14	-.02
Low	.00	.18	.11	.25	-.17	.00
High	.12	.09	.18	-.04	.08	.29
Medium	.14	-.15	-.20	-.08	.03	-.08
Low	-.14	.13	.27	.15	-.08	.11
High	.11	.22	.01	-.38*	-.06	.37*
Medium	.13	-.12	-.09	-.03	.03	-.17
Low	-.29	-.04	.03	.18	-.03	-.04
High	-.03	-.20	.11	.34	.02	-.14
Medium	-.10	-.07	.02	-.18	.08	.00
Low	.19	.22	.07	-.04	-.13	.21

TABLE 40

CORRELATIONS BETWEEN SOCIAL DESIRABILITY AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C CW	D VER	E CD
PSPS	-.08	High	-.16	-.16	-.05	-.06	.11
		Medium	-.23	.13	-.10	-.20	.09
		Low	.15	-.22	-.08	.01	-.37*
LRS	-.13	High	-.24	-.25	.02	.01	.02
		Medium	-.18	.08	-.14	-.33	-.01
		Low	.10	-.30	-.22	-.11	-.31
TSS	-.03	High	-.05	-.02	.12	.05	-.03
		Medium	-.05	.10	.17	-.03	.10
		Low	.06	-.22	-.28	-.17	-.14
RPS	-.04	High	-.28	-.05	-.14	-.11	.19
		Medium	.12	.09	-.29	-.08	.05
		Low	.09	-.12	.22	.19	-.39*

*$p < .05$
**$p < .01$
***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization

G Internal Control
H Dogmatism
I Conservatism-Riskiness
J Test Anxiety
K Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 40 (continued)

	Moderator Subgroups (continued)					
	F	G	H	I	J	K
	CC	IC	Dog	CR	TA	OL
High	-.07	.00	.01	-.07	-.17	-.11
Medium	-.15	-.02	-.06	-.07	.05	-.16
Low	-.06	-.25	-.22	-.07	-.15	.07
High	-.25	-.09	-.06	-.09	-.24	-.24
Medium	-.26	-.14	-.12	-.13	-.06	-.18
Low	.12	-.17	-.17	-.15	-.10	.06
High	-.09	-.02	.09	.01	-.15	-.11
Medium	-.11	-.03	-.04	.00	.05	-.03
Low	.12	.03	-.20	-.10	.07	.09
High	-.10	.01	-.03	-.21	-.15	.08
Medium	.08	-.08	-.09	.01	.15	-.12
Low	-.11	-.11	.17	.20	-.07	-.03

TABLE 41

CORRELATIONS BETWEEN OCCUPATIONAL LEVEL AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C CW	D VER	E CD
PSPS	.12	High	.24	.08	-.13	.03	.17
		Medium	-.01	.33*	.44**	.43*	.27
		Low	.08	-.16	.08	-.12	-.09
LRS	.17	High	.24	.16	-.12	.20	.29
		Medium	.03	.36*	.35*	.34	.15
		Low	.22	-.12	.26	-.11	.05
TSS	.18	High	.36*	.08	-.03	.20	.21
		Medium	.03	.38*	.15	.34	.16
		Low	.13	.04	.42*	.00	.18
RPS	.03	High	-.09	.08	-.04	-.03	.14
		Medium	.01	-.17	.22	.10	.09
		Low	.11	.16	-.13	-.02	-.21

*$p < .05$
**$p < .01$
***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization
G Internal Control
H Dogmatism
I Conservatism-Riskiness
J Test Anxiety
K Social Desirability

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 41 (continued)

	Moderator Subgroups (continued)					
	F CC	G IC	H Dog	I CR	J TA	K SD
High	.24	.10	-.22	-.05	.35*	.09
Medium	-.21	.09	.40*	.18	-.04	.18
Low	.20	.20	.05	-.06	.12	.12
High	.24	.09	.06	.04	.16	.17
Medium	-.19	.10	.35*	.27	.26	.06
Low	.42*	.32*	-.05	-.02	.19	.37
High	.14	-.04	.13	.23	.19	.13
Medium	-.15	.11	.30	.16	.26	.20
Low	.50**	.33*	.05	.14	.09	.27
High	.14	.28	-.16	.02	.09	.03
Medium	-.03	.06	.07	.07	-.24	.12
Low	-.07	-.20	.15	-.03	.24	-.10

TABLE 42

CORRELATIONS BETWEEN SPECIALIZATION LEVEL AND MEASURES OF SVIB PROFILE DIFFERENTIATION WITHIN MODERATOR-CONTROLLED SUBGROUPS (CROSS-VALIDATION SAMPLE)

	Overall Correlation (N = 102)		Moderator Subgroups***				
			A FI	B CVA	C CW	D VER	E CD
PSPS	-.09	High	-.20	.02	-.32	.10	-.15
		Medium	-.20	.02	.17	-.24	.17
		Low	.07	-.40*	-.08	-.20	-.30
LRS	-.14	High	-.35*	.09	-.32	.02	-.35
		Medium	-.14	-.19	.09	-.25	.11
		Low	-.13	-.36*	-.19	-.23	-.27
TSS	-.03	High	-.12	-.12	-.05	-.04	-.29
		Medium	.03	-.05	.21	-.05	.24
		Low	-.11	.09	-.19	-.02	-.11
RPS	.16	High	-.15	.33*	.13	.31*	.18
		Medium	.17	.41*	-.07	.16	.34*
		Low	.43*	-.36*	.31	-.05	.01

*$p < .05$
**$p < .01$
***The N in each subgroup was approximately 34. The exact N may be found in Table 16, Appendix A.

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization

G Internal Control
H Dogmatism
I Conservatism-Riskiness
J Test Anxiety
K Social Desirability
L Occupational Level

PSPS Primary-Secondary Pattern Score
LRS Letter Range Score
TSS Total Standard Score
RPS Rejection Pattern Score

TABLE 42 (continued)

	Moderator Subgroups (continued)						
	F CC	G IC	H Dog	I CR	J TA	K SD	L OL
High	-.05	.05	-.17	-.18	-.20	.02	-.07
Medium	-.23	.25	-.07	.00	-.23	-.31	-.09
Low	.00	-.44**	-.07	-.18	.28	.06	-.23
High	.02	.00	-.10	-.30	-.31	.04	-.08
Medium	-.29	.13	-.31	.06	-.09	-.34*	-.12
Low	-.15	-.44**	-.04	-.24	.20	-.05	-.35*
High	-.02	-.02	.15	-.03	-.17	-.05	-.08
Medium	-.11	.19	-.32	.18	-.10	-.09	-.01
Low	.01	-.28	.03	-.19	.24	.07	-.16
High	-.01	.23	-.15	.11	-.01	.15	.24
Medium	.20	.25	.32	.18	.19	.20	.11
Low	.34*	-.02	.27	.14	.35*	.19	.17

APPENDIX D

COMPARISONS OF MODERATED CROSS-VALIDATION SAMPLE CORRELATIONS WITH SIGNIFICANT MODERATED INITIAL SAMPLE CORRELATIONS

TABLE 43

SIGNIFICANT PREDICTOR AND PRIMARY-SECONDARY-PATTERN-SCORE RELATIONSHIPS IN THE INITIAL SAMPLE COMPARED WITH THOSE RELATIONSHIPS UNDER THE SAME MODERATOR CONDITIONS IN THE CROSS-VALIDATION SAMPLE

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Field Independence	Low Conceptual Compartmentalization	.32**	-.19
Complexity of Verbal Apparatus	Medium Field Independence	.24*	.23
	Low Verbal Equivalence Range	.23*	.17
	High Conceptual Differentiation	.31**	.30
	High Conceptual Compartmentalization	.24*	.30
	High Internal Control	.39***	.45**
	Medium Test Anxiety	.28**	.08
	Low Social Desirability	.44***	.20
	Medium Occupational Level	.30**	.07
Category Width	High Verbal Equivalence Range	-.37**	-.16
	Medium Verbal Equivalence Range	.31**	-.40**
Verbal Equivalence Range	Low Category Width	.28**	.15
	High Conceptual Compartmentalization	.33**	-.09
	Low Conservatism-Riskiness	-.31**	-.01
	Low Occupational Level	.29*	.12
Conceptual Differentiation	Medium Complexity of Verbal Apparatus	-.23*	.18
	High Test Anxiety	-.37**	-.13
Conceptual Compartmentalization	Medium Dogmatism	-.28*	.09
	High Test Anxiety	-.37**	-.10

TABLE 43 (continued)

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Internal Control	Low Social Desirability	.42***	-.09
Dogmatism	Medium Complexity of Verbal Apparatus	.22*	.09
	Medium Conservatism-Riskiness	.24*	-.29
Conservatism-Riskiness	Medium Internal Control	.24*	-.20
	Low Internal Control	-.28*	-.21
	Low Social Desirability	-.33**	-.21
	Low Occupational Level	.28*	-.08
Test Anxiety	Medium Verbal Equivalence Range	.30**	.02
	Medium Conceptual Differentiation	.27**	.00
	Low Conceptual Compartmentalization	.31**	.00
	Medium Internal Control	.34**	-.10
	Low Occupational Level	.37**	.00
Social Desirability	Medium Field Independence	-.22*	-.23
	High Internal Control	-.22*	.00
	Low Conservatism-Riskiness	-.26*	-.07
Occupational Level	Medium Field Independence	.25**	-.01
	High Complexity of Verbal Apparatus	.23*	.08
	Low Verbal Equivalence Range	.24*	-.12
	Medium Conceptual Differentiation	.22*	.27
	High Conceptual Compartmentalization	.31**	.24

TABLE 43 (continued)

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Occupational Level (continued)	High Internal Control	.27**	.10
	Low Conservatism-Riskiness	.37***	-.06
	Low Test Anxiety	.39***	.13
Specialization Level	High Conceptual Differentiation	.34**	-.15
	High Internal Control	.22*	.05

*$p < .10$
**$p < .05$
***$p < .01$

TABLE 44

SIGNIFICANT PREDICTOR AND LETTER-RANGE-SCORE RELATIONSHIPS IN THE INITIAL SAMPLE COMPARED WITH THOSE RELATIONSHIPS UNDER THE SAME MODERATOR CONDITIONS IN THE CROSS-VALIDATION SAMPLE

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Field Independence	Low Complexity of Verbal Apparatus	-.37**	-.31
Complexity of Verbal Apparatus	High Field Independence	.32**	.10
	Low Verbal Equivalence Range	.25*	.16
	High Conceptual Differentiation	.24*	.28
	High Internal Control	.31**	.25
	Medium Test Anxiety	.35**	.16
	Low Social Desirability	.47***	.14
Category Width	High Verbal Equivalence Range	-.28*	-.16
	High Test Anxiety	-.27*	-.27
Verbal Equivalence Range	Medium Complexity of Verbal Apparatus	-.26**	.06
	Low Conservatism-Riskiness	-.28*	.16
	Medium Occupational Level	-.25**	-.10
Conceptual Differentiation	High Test Anxiety	-.40***	-.22
	Medium Social Desirability	-.22*	-.22
Conceptual Compartmentalization	None		
Internal Control	High Test Anxiety	-.26*	-.25
	Low Social Desirability	.35**	.05

TABLE 44 (continued)

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Dogmatism	Medium Conceptual Differentiation	.22*	.03
Conservatism-Riskiness	Medium Internal Control	.25*	-.30
	Medium Dogmatism	.29*	-.54***
	Low Occupational Level	.40**	-.15
Test Anxiety	Medium Field Independence	.25**	.12
	Low Field Independence	.30**	-.12
	Low Complexity of Verbal Apparatus	.38**	.17
	Low Category Width	.34**	.08
	Medium Verbal Equivalence Range	.46***	-.02
	Medium Conceptual Differentiation	.26**	.07
	High Conceptual Compartmentalization	.23*	.12
	Low Conceptual Compartmentalization	.25*	-.14
	Medium Internal Control	.33**	-.15
	Low Internal Control	.25*	.13
	High Dogmatism	.27*	.18
	High Conservatism-Riskiness	.39***	-.04
	High Social Desirability	.36***	.08
	Low Occupational Level	.40**	.11
Social Desirability	None		
Occupational Level	High Field Independence	.32**	.24

TABLE 44 (continued)

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Occupational Level (continued)	High Complexity of Verbal Apparatus	.38***	.16
	Medium Category Width	.29**	.35**
	Low Category Width	.24*	.26
	Low Verbal Equivalence Range	.28**	-.11
	Medium Conceptual Differentiation	.34***	.15
	High Conceptual Compartmentalization	.27*	.24
	High Internal Control	.23*	.09
	Medium Dogmatism	.35**	.35**
	Low Dogmatism	.24*	-.05
	Medium Conservatism-Riskiness	.37***	.27
	Low Conservatism-Riskiness	.36**	-.02
	Medium Test Anxiety	.25*	.26
	Low Test Anxiety	.37***	.19
	Low Social Desirability	.51***	.37
Specialization Level	Low Complexity of Verbal Apparatus	-.33*	-.36**
	Medium Category Width	-.25*	.09
	Medium Conceptual Differentiation	-.22*	.11
	Medium Conceptual Compartmentalization	-.27*	-.29
	High Test Anxiety	-.36**	-.31
	High Social Desirability	-.33**	.04
	Low Occupational Level	-.39**	-.35**

*$p < .10$
**$p < .05$
***$p < .01$

TABLE 45

SIGNIFICANT PREDICTOR AND TOTAL-STANDARD-SCORE RELATIONSHIPS IN THE INITIAL SAMPLE COMPARED WITH THOSE RELATIONSHIPS UNDER THE SAME MODERATOR CONDITIONS IN THE CROSS-VALIDATION SAMPLE

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Field Independence	High Complexity of Verbal Apparatus	.26*	-.05
	Low Complexity of Verbal Apparatus	-.32*	-.25
	High Conceptual Differentiation	.26*	.02
	Low Conceptual Compartmentalization	.35**	-.16
	High Test Anxiety	-.28*	-.19
	Medium Test Anxiety	.26*	.24
Complexity of Verbal Apparatus	Low Field Independence	-.29**	-.29
Category Width	High Test Anxiety	-.27*	-.18
Verbal Equivalence Range	Medium Complexity of Verbal Apparatus	-.35***	.14
	Medium Conceptual Differentiation	-.31**	.28
	Low Conceptual Compartmentalization	-.24*	.01
	Medium Dogmatism	-.41***	.12
	Low Conservatism-Riskiness	-.24*	.15
Conceptual Differentiation	Low Verbal Equivalence Range	-.37***	-.13
	High Internal Control	-.24*	-.17
	High Test Anxiety	-.35**	-.14
	Medium Social Desirability	-.22*	-.23
	Medium Occupational Level	-.33**	-.16

TABLE 45 (continued)

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Conceptual Compartmentalization	Medium Verbal Equivalence Range	-.24*	.13
	Medium Internal Control	-.26*	-.09
	High Social Desirability	-.31**	-.10
Internal Control	High Field Independence	.27*	-.11
Dogmatism	Medium Conceptual Differentiation	.25*	.14
Conservatism-Riskiness	Medium Dogmatism	.43***	-.15
	Low Occupational Level	.33**	-.08
Test Anxiety	Medium Field Independence	.31**	.04
	Low Category Width	.27*	-.03
	Medium Verbal Equivalence Range	.46***	.01
	Low Conceptual Differentiation	.28*	-.12
	High Conceptual Compartmentalization	.26*	.11
	High Conservatism-Riskiness	.36***	-.38**
	High Social Desirability	.30**	-.06
	Low Occupational Level	.33**	-.04
Social Desirability	High Field Independence	.34**	-.05
	High Complexity of Verbal Apparatus	.25*	-.02
	Low Verbal Equivalence Range	.30**	-.17
	Medium Conceptual Compartmentalization	.27*	-.11
	Medium Test Anxiety	.34**	.05

TABLE 45 (continued)

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Occupational Level	High Field Independence	.31**	.36**
	Medium Category Width	.26*	.15
	Low Social Desirability	.37**	.27
Specialization Level	High Field Independence	-.41***	-.12
	High Complexity of Verbal Apparatus	-.43***	-.12
	Medium Category Width	-.46***	.22
	High Verbal Equivalence Range	-.36**	-.04
	High Conceptual Differentiation	-.27*	-.29
	Medium Conceptual Differentiation	-.26**	.24
	High Conceptual Compartmentalization	-.28**	-.02
	Medium Conceptual Compartmentalization	-.42***	-.11
	Medium Internal Control	-.39***	.19
	Low Internal Control	-.28*	-.28
	High Dogmatism	-.33**	.15
	Medium Conservatism-Riskiness	-.26*	.18
	Low Conservatism-Riskiness	-.31**	-.19
	Medium Test Anxiety	-.40***	-.10
	High Social Desirability	-.33**	-.05
	High Occupational Level	-.23*	-.08
	Low Occupational Level	-.38**	-.16

*p < .10
**p < .05
***p < .01

TABLE 46

SIGNIFICANT PREDICTOR AND REJECTION-PATTERN-SCORE RELATIONSHIPS IN THE INITIAL SAMPLE COMPARED WITH THOSE RELATIONSHIPS UNDER THE SAME MODERATOR CONDITIONS IN THE CROSS-VALIDATION SAMPLE

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Field Independence	High Complexity of Verbal Apparatus	-.25*	-.38**
	High Category Width	-.35**	.08
Complexity of Verbal Apparatus	Medium Field Independence	.39***	-.02
	Low Field Independence	.27*	.55***
	Medium Category Width	.35**	.14
	Medium Verbal Equivalence Range	.23*	.26
	Low Verbal Equivalence Range	.31**	-.20
	Low Conceptual Differentiation	.28*	.24
	High Conceptual Compartmentalization	.35***	.27
	High Internal Control	.25*	.33
	Medium Dogmatism	.41***	.40**
	High Test Anxiety	.34**	.13
	Medium Test Anxiety	.29**	.04
	Medium Social Desirability	.24*	.02
	Low Social Desirability	.37**	.18
	Medium Occupational Level	.48***	.15
Category Width	High Internal Control	.23*	.07
	High Test Anxiety	.27*	.22

TABLE 46 (continued)

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Verbal Equivalence Range	Low Category Width	.24*	-.09
	Medium Dogmatism	.28*	.00
	High Conservatism-Riskiness	.30**	-.30
	High Social Desirability	.25*	-.07
	Medium Occupational Level	.33**	.15
Conceptual Differentiation	None		
Conceptual Compartmentalization	Medium Field Independence	-.30**	.17
	Medium Category Width	-.25*	-.08
Internal Control	Medium Complexity of Verbal Apparatus	.24*	.03
	High Category Width	.43***	.14
	High Verbal Equivalence Range	.25*	-.06
	Low Verbal Equivalence Range	.29**	-.16
	High Conceptual Compartmentalization	.31**	.21
	Low Dogmatism	.29**	.07
	Low Test Anxiety	.37***	.23
	High Occupational Level	.24*	.21
Dogmatism	Medium Conceptual Differentiation	-.24*	-.23
	High Internal Control	-.23*	-.33
	Low Conservatism-Riskiness	-.24*	-.09
	High Test Anxiety	-.27*	-.27
	Medium Social Desirability	-.35***	-.12

TABLE 46 (continued)

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Conservatism-Riskiness	Medium Field Independence	-.35***	-.04
	High Category Width	-.39***	.09
	Low Category Width	-.26*	-.13
	Medium Verbal Equivalence Range	-.29**	-.06
	Low Verbal Equivalence Range	-.32**	.09
	High Conceptual Differentiation	-.30**	.04
	Medium Conceptual Differentiation	-.22*	.02
	High Conceptual Compartmentalization	-.41***	-.14
	High Internal Control	-.25*	-.15
	Medium Dogmatism	-.28*	-.19
	Low Dogmatism	-.25*	.11
	High Test Anxiety	-.33**	.08
	Low Test Anxiety	-.24*	-.18
	High Social Desirability	-.30**	-.31**
	Medium Social Desirability	-.22*	.13
	Low Social Desirability	-.37**	.12
	Low Occupational Level	-.38**	.06
Test Anxiety	Medium Conceptual Compartmentalization	.25*	-.10
Social Desirability	Medium Field Independence	-.24*	.12
	Low Category Width	-.24*	.22

TABLE 46 (continued)

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Occupational Level	High Conceptual Compartmentalization	.23*	.14
	Low Dogmatism	.30**	.15
Specialization Level	High Field Independence	.27*	-.15
	Medium Field Independence	.26**	.17
	Low Field Independence	.31**	.43**
	Medium Complexity of Verbal Apparatus	.29**	.41**
	Medium Category Width	.35**	-.07
	High Verbal Equivalence Range	.41***	.31**
	Low Verbal Equivalence Range	.35***	-.05
	High Conceptual Differentiation	.43***	.18
	Low Conceptual Differentiation	.35**	.01
	High Conceptual Compartmentalization	.40***	-.01
	Medium Conceptual Compartmentalization	.33**	.20
	High Internal Control	.41***	.23
	High Dogmatism	.41***	-.15
	Medium Conservatism-Riskiness	.25*	.18
	Low Conservatism-Riskiness	.37***	.14
	High Test Anxiety	.43***	-.01
	Medium Test Anxiety	.36***	.19
	High Social Desirability	.25*	.15
	Medium Social Desirability	.38***	.20

TABLE 46 (continued)

Variables Used As Predictors	Moderating Condition	Initial Sample	Cross-Validation Sample
Specialization Level (continued)	High Occupational Level	.27**	.24
	Medium Occupational Level	.38***	.11

*p< .10
**p< .05
***p< .01

APPENDIX E

CANONICAL COEFFICIENTS OF THE SECOND, THIRD, AND FOURTH CANONICAL CORRELATIONS OF THE TWO SAMPLES

TABLE 47

CANONICAL COEFFICIENTS OF THE SECOND CANONICAL CORRELATION OF THE INITIAL SAMPLE

Predictors		Criteria	
-.398	Conceptual Differentiation	.847	TSS
.303	Internal Control	-.393	LRS
-.269	Verbal Equivalence Range	.352	RPS
.223	Field Independence	.066	PSPS
-.119	Conceptual Compartmentalization		
-.068	Category Width		
-.013	Complexity of Verbal Apparatus		

TABLE 48

CANONICAL COEFFICIENTS OF THE SECOND CANONICAL CORRELATION OF THE CROSS-VALIDATION SAMPLE

Predictors		Criteria	
.391	Field Independence	-.720	LRS
-.339	Conceptual Compartmentalization	.637	TSS
.265	Internal Control	.240	RPS
.220	Verbal Equivalence Range	-.137	PSPS
.164	Category Width		
-.143	Complexity of Verbal Apparatus		
-.002	Conceptual Differentiation		

TABLE 49

CANONICAL COEFFICIENTS OF THE THIRD CANONICAL CORRELATION OF THE INITIAL SAMPLE

Predictors		Criteria	
-.282	Category Width	.771	LRS
-.251	Verbal Equivalence Range	-.610	PSPS
-.158	Field Independence	-.174	TSS
.067	Complexity of Verbal Apparatus	.058	RPS
.036	Conceptual Differentiation		
.032	Conceptual Compartmentalization		
.012	Internal Control		

TABLE 50

CANONICAL COEFFICIENTS OF THE THIRD CANONICAL CORRELATION OF THE CROSS-VALIDATION SAMPLE

Predictors		Criteria	
.662	Conceptual Differentiation	.639	PSPS
.483	Complexity of Verbal Apparatus	-.475	LRS
-.399	Verbal Equivalence Range	.471	RPS
-.370	Conceptual Compartmentalization	-.379	TSS
.109	Category Width		
.092	Field Independence		
.026	Internal Control		

TABLE 51

CANONICAL COEFFICIENTS OF THE FOURTH CANONICAL CORRELATION OF THE INITIAL SAMPLE

Predictors		Criteria	
-.559	Internal Control	.755	PSPS
.417	Field Independence	-.539	RPS
.385	Complexity of Verbal Apparatus	-.291	TSS
-.274	Category Width	.233	LRS
-.210	Conceptual Compartmentalization		
-.173	Verbal Equivalence Range		
.136	Conceptual Differentiation		

TABLE 52

CANONICAL COEFFICIENTS OF THE FOURTH CANONICAL CORRELATION OF THE CROSS-VALIDATION SAMPLE

Predictors		Criteria	
-.477	Category Width	.657	PSPS
.310	Complexity of Verbal Apparatus	-.570	LRS
-.225	Conceptual Compartmentalization	.493	TSS
.111	Verbal Equivalence Range	-.021	RPS
.091	Field Independence		
-.037	Conceptual Differentiation		
-.028	Internal Control		

APPENDIX F

RAW SCORES OF THE SUBJECTS IN THE TWO SAMPLES

TABLE 53

RAW SCORES OF SUBJECTS IN THE INITIAL SAMPLE

Subject Number	Subject Source (Paid or Not Paid)	A FI	B CVA	C CW	D VER*	E CD	F CC	G IC	H Dog*	I CR*	J TA	K SD	L OL	M SL	N PSPS	O LRS*	P TSS*	Q RPS
001	P	09	19	52	22	08	05	10	049	82	57	16	58	33	2	68	325	1
002	P	06	18	64	45	12	06	06	074	79	47	19	54	28	4	73	425	2
005	NP	15	31	80	55	12	01	17	049	48	57	19	63	47	5	67	302	3
006	NP	08	27	84	20	12	03	15	059	57	46	15	75	43	7	80	355	3
008	P	03	26	59	18	09	01	18	043	58	54	16	73	52	3	67	295	4
011	NP	10	30	82	39	10	00	16	051	70	61	19	50	44	6	69	351	4
014	NP	12	22	57	63	07	03	16	082	74	58	16	70	47	3	70	289	3
015	NP	06	24	63	14	11	01	12	052	71	50	19	67	64	6	81	309	4
018	P	15	23	70	52	07	01	15	045	44	52	18	52	34	1	53	299	4
020	P	06	25	50	29	11	00	12	042	67	47	11	49	47	1	55	339	3
021	NP	05	28	57	35	09	00	13	072	67	47	20	50	47	1	50	301	2
022	NP	02	21	87	12	10	12	20	034	54	57	17	63	64	4	68	397	5
025	P	16	18	85	13	12	03	05	072	60	49	19	56	28	2	59	342	1
027	NP	07	25	43	64	09	04	11	062	74	51	20	60	34	5	73	337	3
028	P	13	27	75	53	13	11	05	080	54	55	18	53	57	6	76	256	3
031	NP	15	26	85	22	14	07	05	033	66	66	11	59	49	0	56	300	2
033	NP	09	21	46	39	08	03	08	054	57	55	16	54	44	4	58	249	4
034	P	13	30	70	45	11	07	14	064	45	59	21	54	51	2	64	279	4
036	P	16	30	63	16	11	02	09	059	58	53	13	69	43	1	68	279	3
037	NP	07	28	66	49	07	01	15	046	51	55	23	51	39	2	56	300	3
038	NP	03	27	51	37	08	05	10	038	58	43	19	49	38	3	56	272	3
041	P	03	22	47	24	14	04	17	059	64	52	23	55	23	3	86	381	1
042	P	08	24	82	50	14	02	14	070	46	56	23	55	49	0	43	240	4
043	NP	10	23	72	44	06	01	09	048	52	49	20	63	44	2	41	200	3

045	P	12	24	45	57	11	01	11	067	64	56	23	45	41	7	80	349	4
046	NP	02	22	57	25	11	12	15	065	86	46	19	54	59	2	58	308	3
048	NP	06	25	77	33	14	02	13	061	48	53	17	58	30	4	78	356	2
050	NP	11	18	68	23	12	03	10	048	74	57	21	49	39	3	56	277	4
057	NP	09	20	54	11	13	08	18	073	78	58	19	58	28	3	73	311	2
058	NP	11	18	80	41	15	06	14	046	91	55	21	50	38	7	94	441	2
060	P	08	18	57	40	09	01	15	075	82	51	18	53	31	1	53	213	3
062	P	11	20	57	34	15	07	14	119	81	45	23	54	38	1	47	207	3
064	NP	10	28	87	53	09	03	12	057	68	49	21	54	49	2	64	366	3
065	P	14	24	69	26	06	10	09	062	71	71	15	59	39	2	75	368	2
066	NP	16	26	90	47	10	03	07	070	60	56	16	57	47	3	58	235	4
067	P	15	22	68	29	15	06	20	077	58	62	17	59	44	2	50	251	3
068	NP	06	24	44	15	09	02	06	056	56	52	17	63	38	5	69	326	3
069	P	13	19	71	25	11	06	14	041	56	54	14	45	51	1	40	233	2
071	P	05	13	55	40	14	03	12	115	72	64	21	44	30	3	72	352	3
073	P	01	21	70	47	12	01	11	081	48	55	19	48	39	1	46	227	3
074	NP	15	31	87	35	09	00	12	051	49	56	20	67	46	5	73	360	4
076	NP	09	29	79	20	11	01	13	056	52	44	15	49	41	3	59	284	5
077	NP	09	23	79	35	08	08	16	078	43	43	27	67	38	5	72	260	4
079	NP	11	24	63	42	09	00	12	047	79	57	15	56	38	3	66	345	2
080	P	07	23	54	53	10	03	20	019	89	44	15	61	49	3	65	338	3
081	NP	09	33	71	44	02	00	16	050	50	57	17	63	52	5	70	342	4
086	P	02	27	53	31	06	01	09	043	67	51	15	52	41	2	54	245	4
089	NP	10	13	67	27	06	02	16	092	64	55	17	54	38	4	61	303	3
091	NP	11	27	83	35	03	01	13	049	69	49	22	48	43	0	43	234	2
092	NP	10	30	68	20	08	03	11	052	59	56	16	54	49	8	72	320	4
093	NP	08	22	71	25	10	04	09	087	48	57	21	61	34	3	75	456	2
094	P	09	26	76	71	06	00	15	063	70	54	18	69	39	7	82	332	4
095	P	13	25	71	28	10	03	16	092	44	53	19	62	28	6	81	430	1
097	P	06	17	67	76	07	02	10	137	84	51	17	54	44	2	75	361	2
098	NP	14	22	79	27	07	00	17	042	51	41	19	68	51	6	87	428	4
099	P	08	19	76	46	12	07	12	104	67	55	17	54	36	4	66	332	3
100	P	11	17	69	28	10	02	15	045	78	55	17	56	44	0	54	298	1
101	P	11	19	78	18	12	07	08	063	63	54	17	54	34	3	62	316	2
104	NP	08	31	74	25	12	00	15	049	52	54	15	60	41	5	74	251	5

TABLE 53 (continued)

Subject Number	Subject Source (Paid or Not Paid)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
		FI	CVA	CW	VER	CD	CC	IC	Dog	CR	TA	SD	OL	LS	PSPS	LRS	TSS	RPS
108	P	06	22	76	15	16	01	14	109	32	48	15	79	51	3	73	359	3
109	P	09	20	48	37	10	02	15	079	70	51	19	59	38	3	67	378	2
110	NP	11	27	65	44	08	02	18	008	46	59	16	58	52	3	55	263	5
111	NP	07	26	53	73	10	04	14	055	72	59	17	55	41	4	63	304	4
112	NP	09	29	67	17	08	03	17	071	58	57	20	56	51	4	67	283	4
113	NP	08	27	80	10	12	05	15	036	61	55	19	66	57	3	68	229	4
114	NP	09	25	72	44	10	02	12	010	56	53	15	59	36	2	52	217	5
116	P	09	20	76	26	11	05	16	064	54	56	20	60	38	2	62	323	1
117	P	01	25	53	56	13	03	10	047	89	60	16	55	33	1	54	278	4
118	NP	16	31	67	14	08	00	20	037	42	49	14	70	52	5	91	408	3
119	NP	16	26	63	41	05	03	21	033	29	55	20	63	34	1	60	319	4
121	NP	16	23	80	45	13	04	11	067	67	51	23	61	33	3	60	341	1
123	P	10	23	70	04	11	00	17	065	62	47	18	61	23	4	71	351	4
127	P	10	24	66	45	07	04	07	037	61	53	22	54	30	3	68	312	1
128	P	14	33	84	33	08	03	07	024	51	56	18	57	51	6	71	338	4
129	P	11	23	56	51	10	02	14	047	60	51	14	60	34	4	84	433	3
131	P	05	23	68	38	16	09	11	084	84	51	17	61	49	2	56	291	1
133	P	07	14	65	20	12	00	17	057	64	52	15	63	28	1	51	283	1
136	P	16	20	68	43	08	03	05	086	71	51	23	53	49	2	45	280	4
138	P	09	18	46	07	12	07	14	088	67	55	16	53	41	1	45	221	4
139	NP	06	25	61	25	10	01	15	047	66	50	13	55	43	3	63	278	3
140	NP	14	28	80	32	07	01	13	047	72	54	17	54	49	6	74	294	4
141	P	16	28	76	55	12	03	10	034	32	55	20	64	34	2	83	460	2
142	NP	11	18	82	40	13	09	17	084	84	52	22	56	23	1	54	288	2
145	NP	06	21	66	40	08	02	11	045	84	59	21	55	39	5	79	395	3
146	NP	08	24	45	38	12	02	14	052	56	48	22	59	56	3	64	330	2
147	NP	11	32	50	58	14	05	21	036	22	48	19	63	57	6	77	301	4

148	NP	16	29	72	40	12	01	11	028	30	52	21	67	43	5	66	340	4
149	NP	07	23	74	34	15	03	18	080	60	49	19	63	49	5	62	280	4
150	NP	07	25	56	68	11	02	16	053	58	51	16	51	41	6	59	229	3
151	NP	08	20	87	49	12	05	19	073	76	46	17	74	51	5	66	311	4
152	NP	08	15	76	51	08	02	15	037	65	57	19	45	28	4	72	318	3
153	P	07	27	51	38	06	01	17	071	34	62	25	55	51	3	82	457	1
156	P	11	17	70	11	12	12	16	065	73	64	17	58	39	3	79	429	2
160	P	12	31	87	47	11	00	14	031	41	49	17	60	49	0	50	242	2
162	NP	01	23	65	17	11	01	12	080	62	49	16	68	64	3	67	289	3
163	P	07	33	89	45	12	01	16	034	60	53	11	48	47	4	72	307	2
164	NP	16	27	80	15	13	00	05	064	66	45	19	61	56	7	79	388	2
165	P	10	20	83	18	07	00	08	081	85	54	22	58	41	2	59	331	3
166	NP	08	21	80	25	14	08	17	090	44	51	22	55	39	4	68	267	3
172	P	07	23	60	38	10	06	14	048	63	55	15	66	44	3	78	331	3
177	NP	02	25	75	50	08	04	16	030	34	52	20	61	38	4	87	390	2
178	NP	14	33	81	30	11	05	14	045	60	60	15	62	39	6	80	393	3
181	NP	15	26	53	37	09	03	19	058	66	54	19	60	51	2	64	340	2
182	NP	07	27	79	18	09	07	18	023	36	50	22	63	47	3	60	318	4
183	P	14	28	60	66	10	02	18	003	68	54	14	61	51	7	82	327	3
184	P	13	26	62	25	10	16	17	077	58	51	18	67	44	4	73	390	3
185	P	10	21	83	20	09	01	12	082	68	56	20	57	44	4	82	368	2
187	P	09	16	79	09	08	01	08	063	79	48	15	67	46	3	66	377	2
188	NP	16	26	80	46	12	06	20	093	45	46	20	62	47	3	55	342	4
189	P	13	15	61	28	12	01	18	078	38	57	17	67	43	5	68	319	4
190	NP	07	24	78	70	10	03	18	068	42	53	23	59	43	0	40	199	4
191	P	09	21	57	14	09	02	10	035	71	61	18	61	49	3	71	391	2
192	NP	12	25	80	31	06	00	14	039	38	54	21	67	44	5	77	357	3
193	P	03	26	42	20	10	07	09	065	46	49	20	49	34	2	64	334	4
197	P	03	30	65	29	13	08	08	063	54	54	19	55	46	5	70	248	4
198	P	09	34	66	31	05	10	08	054	60	46	21	50	56	3	56	235	3
199	P	05	16	71	30	08	01	11	075	80	59	17	46	18	7	99	403	1
200	P	16	30	97	25	07	01	15	056	69	53	23	70	56	4	77	374	2
202	NP	10	20	58	42	10	02	12	053	74	50	18	47	47	2	57	320	3
205	NP	10	24	74	37	09	04	08	067	82	53	18	58	34	4	78	335	3
206	P	10	23	60	36	11	05	15	038	60	53	20	57	52	1	50	252	3

TABLE 53 (continued)

Subject Number	Subject Source (Paid or Not Paid)	A FI	B CVA	C CW	D VER	E CD	F CC	G IC	H Dog	I CR	J TA	K SD	L OL	M LS	N PSPS	O LRS	P TSS	Q RPS
208	P	12	26	64	22	09	01	13	067	77	54	20	50	21	5	88	429	2
209	P	13	21	78	32	16	01	08	079	48	54	23	48	30	4	74	378	4
210	P	08	23	64	58	09	01	05	053	64	53	18	66	41	4	66	197	4
211	P	10	26	74	28	10	00	06	052	65	55	19	43	36	2	58	283	4
212	P	06	30	78	36	05	04	10	049	53	59	13	61	34	5	76	387	4
213	P	13	26	99	44	11	02	04	042	80	54	13	66	51	0	51	211	5
214	P	10	24	69	37	07	02	14	105	56	52	08	61	49	4	64	255	4
215	NP	10	14	72	09	10	01	08	050	57	61	17	68	31	6	75	315	4
216	NP	11	24	84	12	07	08	08	061	63	53	17	63	47	5	75	348	3
217	P	14	27	76	51	14	03	15	086	48	51	19	64	31	2	82	436	1
219	NP	04	25	76	41	10	05	13	033	37	55	21	53	41	1	44	217	3
221	P	06	17	89	31	10	06	14	051	71	47	15	57	15	4	57	286	4
222	NP	03	31	85	35	17	00	19	081	56	54	16	58	46	5	77	284	4
227	NP	05	23	78	32	12	07	11	041	53	65	21	63	34	4	74	298	3
229	P	02	18	77	28	10	02	14	073	55	48	20	50	16	4	71	378	3
232	NP	11	29	76	23	10	09	11	070	40	50	17	61	59	3	62	223	3
233	NP	02	21	54	22	11	03	09	067	69	57	20	62	39	6	90	445	3
235	P	12	24	56	34	09	06	08	055	56	53	16	49	47	3	53	268	4
236	P	09	26	72	23	06	02	11	031	44	50	22	54	28	2	72	460	2
237	NP	07	22	64	46	13	01	17	074	42	49	22	49	47	1	57	305	5
240	NP	04	22	45	10	10	02	07	050	71	51	22	50	38	0	70	383	0
241	NP	04	30	84	07	17	04	19	030	33	58	19	66	59	4	59	264	4
242	NP	09	25	34	34	06	06	05	072	70	61	17	51	49	5	89	469	2
244	P	09	21	84	15	13	01	17	038	71	49	17	72	36	0	39	178	4
245	P	15	20	52	10	15	03	03	046	70	51	19	44	36	5	67	260	4
247	P	08	22	43	41	06	00	11	084	81	50	18	49	47	5	76	295	4

248	NP	13	26	77	14	10	06	07	069	81	51	20	42	46	1	57	314	2
249	P	10	24	68	44	14	02	11	072	64	55	19	55	56	7	77	315	4
251	NP	11	23	68	44	02	01	13	102	60	57	17	67	46	6	67	309	4

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization
G Internal Control
H Dogmatism
I Conservatism-Riskiness
J Test Anxiety
K Social Desirability
L Occupational Level
M Specialization Level
N Primary-Secondary Pattern Score
O Letter Range Score
P Total Standard Score
Q Rejection Pattern Score

*These scores were converted for ease of computing. To obtain the original scores it is necessary to add 20 to each of the VER scores, to subtract 80 from each of the Dog scores, to add 10 to each of the CR and to each of the LRS scores, and to add 1000 to each of the TSS scores.

TABLE 54

RAW SCORES OF SUBJECTS IN THE CROSS-VALIDATION SAMPLE

Subject Number	Subject Source (Paid or Not Paid)	A FI	B CVA	C CW	D VER*	E CD	F CC	G IC	H Dog*	I CR*	J TA	K SD	L OL	M SL	N PSPS	O LRS*	P TSS*	Q RPS
003	NP	16	22	67	26	08	00	08	054	85	48	20	54	44	2	58	360	2
004	P	12	32	93	27	09	10	16	043	66	51	15	59	39	7	79	314	3
007	P	13	20	60	27	15	03	15	079	84	58	16	50	52	3	50	277	3
009	NP	05	18	59	53	19	01	12	064	64	57	19	42	41	0	48	234	1
010	P	00	15	31	59	10	02	10	061	79	50	18	55	36	3	64	340	2
012	NP	14	19	75	29	08	03	11	065	83	56	26	57	43	1	51	281	1
013	NP	12	17	90	09	13	03	11	042	93	55	19	50	38	5	70	297	4
016	NP	11	19	57	23	12	01	16	098	75	52	18	58	49	2	64	360	2
017	NP	15	24	95	40	15	00	14	053	76	56	18	53	43	2	48	294	6
019	NP	03	24	95	57	11	01	14	107	55	50	25	59	54	6	83	408	3
023	NP	05	14	60	29	06	02	15	069	64	58	13	60	46	3	71	379	2
024	P	08	21	63	49	08	00	10	070	59	52	14	42	36	3	50	264	4
026	P	07	30	87	43	05	03	13	036	61	52	19	58	57	2	67	336	4
029	P	10	27	70	47	12	05	10	103	64	54	19	54	41	2	50	281	3
030	NP	06	29	62	51	06	01	12	039	64	50	14	55	56	8	80	362	5
032	P	15	23	76	18	09	01	12	051	77	51	19	50	39	0	47	202	3
035	NP	07	18	70	17	09	03	13	068	50	47	19	55	34	6	88	314	3
039	NP	04	21	76	50	08	01	18	056	57	49	21	67	49	2	64	317	3
040	NP	04	18	70	60	08	03	16	073	48	58	22	50	43	5	84	386	2
044	P	16	21	62	44	08	03	14	094	54	49	21	58	38	4	72	417	2
047	NP	03	19	79	30	15	06	08	054	50	63	19	52	23	5	79	345	3
049	P	08	21	50	40	04	02	12	068	75	56	18	46	34	4	87	371	2
051	NP	14	25	79	33	12	07	13	035	75	54	20	66	43	3	75	372	2
052	P	05	26	52	24	14	00	10	068	38	51	19	66	30	3	71	367	2
053	P	08	28	67	48	13	01	10	052	52	44	22	54	39	4	74	373	3

054	NP	06	21	73	34	04	01	17	042	64	53	19	59	43	4	74	341	3
055	P	05	30	26	53	10	02	14	067	38	52	20	56	56	6	76	263	5
056	NP	12	21	66	22	11	14	08	093	37	56	22	58	46	1	51	244	2
059	NP	09	22	62	56	08	00	21	077	52	58	24	55	51	2	54	255	4
061	P	10	21	75	43	15	06	13	064	88	56	17	54	51	2	44	216	4
063	NP	09	20	89	41	07	04	19	071	79	54	21	67	54	2	65	363	2
070	P	10	28	72	49	08	01	07	058	68	48	20	58	34	0	49	279	3
072	P	15	27	70	24	08	01	08	041	51	57	18	62	41	5	65	334	3
075	P	11	34	69	34	11	10	07	079	28	56	15	67	54	5	84	347	3
078	NP	05	20	71	34	10	02	07	082	72	50	15	61	34	4	69	285	3
082	P	14	28	75	53	10	06	10	047	71	42	22	49	36	3	61	331	2
083	P	11	31	97	11	11	02	15	082	52	62	24	55	39	4	71	369	2
084	P	11	13	72	43	05	01	18	081	81	53	22	58	36	2	63	396	2
085	NP	16	23	89	31	14	08	12	049	67	59	20	63	47	4	69	243	4
087	NP	08	27	66	30	08	04	12	063	60	57	20	50	34	4	64	368	4
088	NP	15	23	69	47	07	00	17	093	72	55	15	55	34	0	55	297	3
090	P	16	28	68	44	11	00	06	041	46	55	15	58	54	2	64	342	2
096	NP	12	30	84	78	10	07	13	023	57	49	13	50	34	3	67	319	4
102	P	08	20	59	19	10	01	12	099	54	67	19	54	43	5	79	382	3
103	P	12	21	75	31	11	06	14	061	60	58	16	41	26	0	61	284	2
105	NP	05	19	50	38	08	05	19	040	42	54	15	63	39	3	72	376	3
106	P	07	18	46	60	12	10	07	096	80	47	20	47	34	5	74	373	1
107	P	05	28	34	24	11	07	12	077	62	52	13	68	52	0	58	306	2
115	P	15	19	70	51	11	06	08	095	60	60	21	59	44	4	67	384	1
120	P	16	24	86	37	11	00	16	035	38	52	17	62	44	5	68	302	4
122	NP	11	20	79	52	13	04	14	078	42	45	24	63	38	1	58	265	4
124	P	14	19	52	23	14	08	10	058	55	53	21	59	51	3	56	252	3
125	P	10	14	83	18	07	00	07	089	79	59	21	50	26	4	71	336	3
126	NP	08	22	94	25	08	04	18	016	77	51	15	60	59	2	65	326	3
130	NP	10	16	73	23	13	06	12	072	79	62	21	58	30	2	53	217	4
132	NP	03	26	74	34	15	03	14	053	58	50	17	63	46	5	76	292	4
134	P	15	20	60	45	13	03	06	095	62	62	17	44	21	4	72	307	4
135	P	07	30	83	45	11	04	16	054	64	49	20	63	51	7	76	328	5
137	NP	10	26	70	63	11	01	07	070	73	61	19	58	49	5	67	270	3
143	NP	14	28	70	56	07	07	12	078	67	61	20	49	41	2	62	324	2

TABLE 54 (continued)

Subject Number	Subject Source (Paid or Not Paid)	A FI	B CVA	C CW	D VER	E CD	F CC	G IC	H Log	I CR	J TA	K SD	L OL	M LS	N PSPS	O LRS	P TSS	Q RPS
144	NP	09	13	68	36	08	02	14	073	58	57	17	58	30	5	69	269	4
154	NP	11	26	70	30	07	00	10	057	59	53	17	57	43	5	81	325	3
155	P	15	23	56	34	17	06	07	061	52	62	20	66	33	7	84	436	3
157	P	14	27	84	34	14	04	17	049	64	56	20	57	38	3	66	368	5
158	NP	12	24	78	49	08	02	13	051	46	53	23	61	44	1	57	317	3
159	P	07	24	79	26	11	01	10	048	73	58	21	52	33	3	77	283	3
161	NP	08	30	84	31	06	03	08	002	48	54	18	63	44	5	68	335	3
167	P	14	29	66	20	10	01	10	062	75	51	16	53	36	3	61	305	2
168	NP	11	24	86	54	10	04	10	079	56	51	17	57	30	4	62	279	4
169	NP	10	24	75	28	09	00	11	091	77	53	19	63	54	4	67	374	4
170	NP	06	19	74	47	08	05	08	055	66	54	19	50	49	0	57	341	2
171	P	09	21	64	20	12	03	17	044	46	48	14	55	36	0	48	283	2
173	NP	16	27	88	29	08	01	09	055	75	58	21	50	54	0	43	234	3
174	P	07	24	70	46	10	05	09	063	83	55	22	45	38	1	53	286	3
175	NP	08	27	72	36	14	06	18	045	60	49	20	77	49	6	77	356	4
176	NP	09	25	58	46	11	09	11	046	62	55	19	55	46	4	80	306	3
179	P	05	22	51	50	14	03	13	077	64	55	26	43	46	4	56	275	5
180	NP	16	26	54	14	06	04	10	055	59	57	17	43	39	5	67	275	4
186	P	13	14	62	30	03	01	12	063	53	60	22	54	31	4	61	254	4
194	NP	16	16	41	18	09	07	07	072	70	54	19	59	33	5	61	311	4
195	P	11	24	45	73	11	01	09	054	52	45	19	69	33	5	92	404	1
196	P	08	20	53	18	11	03	18	041	42	44	19	63	38	1	46	226	5
201	P	08	32	62	93	11	04	14	025	63	60	20	50	62	4	77	348	4
203	P	05	18	66	19	13	08	12	067	69	56	17	50	25	2	69	333	3
204	NP	05	28	92	20	13	05	17	058	58	55	15	72	59	4	68	288	4
207	NP	08	21	78	71	09	01	19	062	66	53	17	59	54	2	53	326	5
218	P	15	16	64	32	18	02	15	120	79	58	24	43	31	4	62	285	3

220	P	16	26	88	68	05	06	19	073	66	48	24	60	43	1	51	259	2
223	NP	06	23	72	63	08	01	10	068	60	55	16	44	43	3	48	266	4
224	P	08	25	62	25	11	03	21	050	38	49	14	54	39	6	90	406	2
225	NP	06	30	83	20	10	02	12	070	47	52	22	65	43	3	61	291	3
226	NP	08	28	73	22	12	05	09	059	46	47	20	56	34	5	63	240	5
228	P	13	21	68	46	10	09	14	070	66	51	19	50	41	4	72	325	3
230	NP	06	17	81	46	09	02	07	092	49	60	20	54	43	5	78	314	4
231	NP	10	12	52	32	08	03	10	103	39	56	14	54	15	6	87	363	3
234	NP	03	29	90	67	08	00	09	047	44	54	17	59	56	1	51	248	3
238	P	14	26	80	34	11	01	09	092	34	51	17	50	31	2	57	248	2
239	P	11	21	57	20	10	03	07	050	68	52	21	56	49	2	54	298	5
243	NP	08	22	84	25	06	03	17	060	58	52	19	66	41	4	62	294	3
246	NP	11	26	84	59	12	01	10	048	62	53	17	48	28	7	86	375	2
250	NP	10	20	79	47	09	02	18	051	67	49	19	52	43	4	73	364	3
252	NP	07	21	70	28	10	03	18	062	64	53	14	63	39	3	64	269	3

A Field Independence
B Complexity of Verbal Apparatus
C Category Width
D Verbal Equivalence Range
E Conceptual Differentiation
F Conceptual Compartmentalization
G Internal Control
H Dogmatism
I Conservatism-Riskiness
J Test Anxiety
K Social Desirability
L Occupational Level
M Specialization Level
N Primary-Secondary Pattern Score
O Letter Range Score
P Total Standard Score
Q Rejection Pattern Score

*These scores were converted for ease of computing. To obtain the original scores it is necessary to add 20 to each of the VER scores, to subtract 80 from each of the Dog scores, to add 10 to each of the CR and to each of the LRS scores, and to add 1000 to each of the TSS scores.

BIOGRAPHICAL SKETCH

John Walter Krienke was born February 21, 1934, in Houston, Texas. He attended schools in Stillwater, Oklahoma, Urbanna, Illinois, and Gainesville, Florida, graduating from Gainesville High School in 1952.

Mr. Krienke entered the University of Florida in 1952, majoring in electrical engineering. From 1956 to 1958 he was on active duty with the United States Navy, following which he entered Concordia Theological Seminary, Springfield, Illinois. During a leave of absence he completed work on the Bachelor of Arts degree in psychology at the University of Florida, receiving this degree with honors in 1961. He then completed work at the seminary, which awarded him the Bachelor of Divinity degree in 1964.

In September, 1964, Mr. Krienke entered the University of Florida graduate program in psychology, in which he received the degree Master of Arts in December, 1965. During the period 1964 to 1967 he held fellowships from the Graduate School and the College of Arts and Sciences, and for a time he was a teaching assistant for the Department of Psychology. His internship in counseling-clinical psychology was served at the Counseling Center and the Health Center of the same university from September, 1967, to August, 1968. Since January, 1969, he has been employed at the Counseling Division, Bureau of Psychological Services, University of Michigan.

John Walter Krienke is married to the former Carolyn Sue Borcherding and has two children, Barbara Ruth and John Clement Walter. He is a member of Psi Chi, Phi Eta Sigma, and Sigma Tau.

This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Arts and Sciences and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December, 1969

E. Ruffin Jones
Dean, College of Arts and Sciences

Dean, Graduate School

Supervisory Committee:

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